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THE IMPORTANCE OF NEURO-PATHOLOGY TO PSYCHIATRY.*

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That neuro-pathology, through anatomical and biochemical investigations, has made a positive contribution to psychiatry goes without questioning. But there has been a tendency among psychiatrists in the recent past to ignore the structural patterning of man, and to divorce soma and psyche and to treat the mind as a thing apart. While our vision of the so-called organic field has deepened and widened, we are still inclined to regard deviations of mental and emotional nature as disease units in themselves. Surely the time has come to put away the notion that psychiatry deals with just mind disease. We have to dig below the surface of morbid phenomena to find the toxic or chemical or glandular origins of disease—often heavy and seemingly unprofitable labor, but work which is the very stuff of medicine, and on which one day will be established a real pathology of mind.

A glance at the yearly reports of some of our State Hospitals would indicate that research in the field of neuro-pathology is all but a lost art. To support this contention, I cite the records of the hospital with which I am connected. From January 1, 1939, to December 31, 1939, we had a total of one hundred and eighty-eight deaths. Of these thirty-three were unclaimed bodies. Yet not a single autopsy was performed. I am certain that, had only a few of these cases come to autopsy, some very interesting findings would have been obtained. At least the cause of death could have been verified.

The population of our Mental Hospitals is growing by leaps and bounds. Statistical tables are frightening when comparisons are made over several decades. In our four State hospitals and two colonies, there are more than ten thousand persons—because of mental diseases, feeblemindedness, epilepsy, personality defects, and criminality. This in itself is a real challenge to those of us who are practicing psychiatry in these institutions. Here we have the material for research—both the living and the dead. We have the advantage over the physicians of the private sanatoriums because of the large number of indigents who leave us, as their beneficiaries, their bodies for study.

It should put us to shame that the neuro-pathological research done in this State, aside from that of the two medical colleges, is done almost entirely by the staff members of the private sanatoriums. They seize every opportunity for post-mortem study. Only recently, from conversation with a neuro-psychiatrist associated with one of the private sanatoriums, I learned of the intense study every member of their staff makes routinely on every post-mortem they can obtain. They do this to better their own knowledge of the anatomical structure of the body, and at the same time to attempt to establish the etiology of the mental abnormality.

In our search for the causes of mental diseases, we are reminded of the maxim laid down by Osler, "Observe the patient, verify in the laboratory, and by autopsy." Medical science's chief frontal attack on the mental diseases should be the tried weapons long used against somatic diseases, namely, the laboratory and the autopsy table. Compilation of symptoms and diagnosis are not sufficient. The history of medical successes proves that the method of prevention and the cure of a disease has never been established through the study of its symptoms alone. Biochemical, bacteriological, and anatomical changes underlying it have to be studied before science is able to understand it and control it. The control of our major diseases of the past, such as tuberculosis, typhoid fever, diphtheria, diabetes, etc., has been brought about by this line of attack. We have gained

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a knowledge of several of our major mental diseases through this same procedure. For example, the Wassermann reaction pointed out that syphilis was the cause of paretic dementia, and it remained for Noguchi to demonstrate through neuro-pathological methods, that the spirochaeta of pallida could be found in the walls of the blood vessels and in the cells of the brains of the paretic. We now take all of this for granted, yet at the turn of the century practically nothing was known of the underlying pathology of paresis. And we still have no specific knowledge of the causes of the two great scourges of our civilization, dementia praecox and manic depressive psychosis.

The writer recalls studying a large number of case histories in the dead files of a large mental hospital. These histories were compiled during the last decade of the 19th century and the early part of the present century. They were exceptionally good records of the symptoms and behavior reactions of the patients. On the front sheet of each case history was outlined the name of the patient, date of admission, diagnosis, and *last*, but not *least*, the cause of the insanity. Through reading and studying the symptoms of some of these patients one could very easily pick out the now known classical symptoms of paresis. In that day and age, *masturbation* seemed to be the chief cause of the mental ills which afflicted the patients. In fact, some ingenious person had had a rubber stamp made which was used to record this fact for the benefit of posterity. As to the diagnosis, *melancholia* was the favorite term.

By making a study of the brains of patients who have died from paresis, tumors, arteriosclerosis, etc., we are gaining a better understanding of the manner of production of particular symptoms.

By locating a specific lesion in the nervous system and by correlating other pathological findings with the mental behavior of the patient, we understand better the function of certain areas of the brain. Through post-mortem studies of brain tumors light has not only been thrown upon the general motor and sensory functions of the brain, but also upon the fields of memory, language, and personality.

From these studies, we learn that even such psychic symptoms as hallucinations, delusions, and disturbances of the sensorium follow damage to certain groups of nerve cells. In the field of surgery, this knowledge has guided us in differentiating between certain so-called functional psychosis and certain organic conditions. We see not infrequently brain tumors that objectively and subjectively give symptoms similar to senile deterioration. We not infrequently diagnose cases subjectively as senile deterioration or cerebral arteriosclerosis, or even as paranoia, that later at the autopsy table prove to be cases of brain tumor.

Some authorities have demonstrated that there is a structional change in the glia and in the brain cells of patients who have suffered with dementia praecox. We know that with alcohol and certain other drugs we can produce in patients psychic symptoms which simulate manic-depressive or even schizophrenic features. This is a temporary biochemical effect on the central nervous system.

More research is needed before any definite conclusion can be made, but we have some very good leads here to indicate that mental diseases such as schizophrenia and manic-depressive are more than functional diseases.

The purpose of this paper is not to provoke an argument between the two schools of thought, but to call to the attention of the physicians on the staffs of our Mental Hospitals, the opportunity which is ours for neuro-pathologic research. Our State hospitals should be something more than hospitals—they should be centers of research. In them, laboratory work should go on, which will lead, we hope, to the discovery of the causes of the now baffling mental ills. Such discovery will in turn direct us to the cures of the diseases, or, better yet, to their prevention.

I should like to see our hospitals establish contact with physicians in private practice by holding monthly neuro-pathological conferences to which the physicians from nearby communities would be invited. A tremendous amount of interest can be stimulated in psychiatry by presenting at these conferences complete case histories, including laboratory and autopsy findings along with gross specimens, and, in some instances, slide specimens. Such conferences will serve a two-fold purpose. They will provide incentive for study and research to the staff physicians, and also they will be of tremendous educational value in selling psychiatry to the general practitioner.

By such a program of study and research, state institutions will earn a better name than "Mansions of Ignorance". They will gain the respect of scientists everywhere, and, more important; they will be

taking a big step forward toward controlling this baffling thing called mental disease.

They have the material and the opportunity; let them set up the machinery to make use of this material and opportunity. I should like to see a competent resident pathologist and a well equipped laboratory in each of our State hospitals and a yearly batting average of at least 40 per cent post-mortem examinations in all of our State institutions.

To summarize:

1. We must evolve a pathology for neuroses and psychoses—and they are only two parts of the same spectrum, through medicine. The effort to do so through philosophy and psychology has not succeeded.

2. More intense research in neuro-pathology is necessary if mental diseases are to be controlled.

3. The logical place for such a program of neuropathological research is in the State hospital, where there is a wealth of material. What is needed to set up such a program is a real interest on the part of the staff members of the mental hospitals, together with the necessary laboratory equipment for carrying on the work. The addition of a competent pathologist to the staffs of these hospitals would be the first step in this direction.

DISCUSSION

DR. D. C. WILSON, Charlottesville: Dr. Pettis has presented several interesting concepts. First, that psychology and philosophy have failed to explain the causes of psychoses and neuroses, and therefore we must return again to structure for etiological reasons for their existence. Certainly it is true that therapy based on personality reactions in which the material side of the personality reaction is not considered, is bound to fail. Personality is certainly composed in large part of soma, and lack of knowledge of the changes in the soma whether they are physiological or pathological, makes intelligent understanding and treatment of the personality disorders impossible. His next proposition that intense research should be applied to the neuropathology of mental disease must be considered with the real common sense attitude that the large proportion of personality reactions are not based on structural changes which can be demonstrated by so-called neuropathological studies and that very likely the research which will explain mental diseases will be in the fields of physiology and biochemistry. Certainly this is true unless newer methods of neuropathological investigation are developed. However, the material part of personality bears the imprint of the life history so that every autopsy brings to light things of structure which explain many of the complexes which seemed entirely psychological during life. Also, much is learned of the methods of future care of similar patients. Certainly a hospital which does not have a high percentage of post-mortem examinations cannot do first-class work. As Dr. Pettis says, the state hospitals of Virginia have a great fund of material which should be investigated. This investigation above everything else stimulates the staff and improves their efficiency. Also there is no reason why deeper forms of investigation should not arise from laboratories which are placed in these institutions.

DR. BEVERLEY R. TUCKER, Richmond: This paper of Dr. Pettis' is a very intelligent and a very courageous expression of truth. I suppose truth always hurts but nothing is more helpful than truth. As far back as 1894 Dr. Weir Mitchell, making an address in Chicago as invited guest to the Association of American State Asylum Superintendents, as the American Psychiatric Association was then known, offended his audience by telling them they were neglecting their duty and missing a valuable opportunity in not having laboratories in their institutions and in not performing autopsies. This paper, however, made many of them go back and start pathological departments. The knowledge gained has been great but there is yet, and always will be, much to be done for medicine is never static—except when we and our institutions are static.

I recall being asked to sit on two commissions of lunacy in each of which it was apparent that the patient had a marked hypopituitarism. I suggested that the commissions be postponed and the patients given pituitary feeding. In each instance the mental symptoms cleared entirely in a few weeks.

Many years ago I sent to a large distant clinic a patient on whom I had made the diagnosis of a temporal tumor. She was studied for several weeks and sent back to me with the diagnosis of an hysterical psychoneurosis. In a short time upon re-examination I sent her back asking that she be operated on. This was hesitantly done and a large tumor was found.

Due somewhat to lack of money and training neuropathology is neglected in many of our southern state hospitals. Let this not be the case any longer. Let us rather remember that many of the great pathologists in the past worked in sheds with but little assistance and few instruments. All that is needed is a table, a little equipment, a body, and a doctor who is anxious to do the autopsy.

I hope that this clear call of Dr Pettis' will be heeded and that the stigma of unprogressiveness will be removed from our institutions. It is probable that no mental illness comes out of a clear sky without pathologic background. Gold is rarely found without prospecting for it.

DR. JAMES ASA SHIELD, Richmond: I think Dr. Pettis has pointed to a great opportunity that doctors in mental hospitals are missing when they do not correlate their studies of the patient with autopsy findings.

At the Medical College of Virginia we receive autopsy material from the Eastern State Hospital and the Cen-

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tral State Hospital and from these two sources the autopsy material frequently throws light on the previous clinical manifestations, and the excellent observations and studies at these hospitals help us in the practice of medicine from the correlation of the hospital records and the pathological specimens.

SPIROCHETAL JAUNDICE (WEIL'S DISEASE).*

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Although spirochetal jaundice cases have been reported in large numbers since 1916 in foreign countries, it seems to be a rare disease in the United States. We are of the opinion that the condition is much more common than would be expected by the material published up to this time in our literature. It is possible that this discrepancy is not due to a lack of cases but probably due to the inability to recover the organism from the blood or urine. Agglutination studies will very frequently confirm the diagnosis when the blood and urine are negative. It is hoped that in the future agglutinative studies will be easily obtainable through cooperative public health facilities.

The characteristic clinical phenomena of an acute febrile state, extreme prostration, generalized aches, muscular pains, particularly in the calf muscles, and later jaundice with evidence of severe kidney damage, are unmistakable to any observer familiar with this disease. Probably the most important differential points are the muscular pains and the kidney involvement. These may be present in catarrhal jaundice but not to the extent noted in spirochetal jaundice. Autopsy studies on cases that have succumbed invariably reveal an interstitial nephritis, inflammatory destruction of skeletal muscle, and a retention type of jaundice, with slight degenerative changes in an enlarged liver.

In the past five years, seven cases of spirochetal jaundice were admitted to the Medical College of Virginia, Hospital Division, and the object of this study is to present five of these cases with their autopsy findings and the other two cases with recovery. It is believed that more cases have been seen but were classified as catarrhal jaundice on account of negative laboratory findings and the lack of autopsy confirmation.

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CASE I

A colored male, R. A., thirty-four years old, was admitted on November 3, 1936, with a history of having been ill seven days before admission with a sore throat and generalized aching about the body. He had fever and had become delirious after several days. A yellowish discoloration of the eyes was noted the day before admission. The family and past history were irrelevant.

Physical Examination. An emaciated, dehydrated, colored male in a semi-conscious state, incoherent and irrational. The neck was rigid. There was marked jaundice of the sclerae. The chest and lungs were negative. The heart rate was rapid and regular, a systolic murmur was heard over the entire precordium, the blood pressure was 135 mm. of mercury systolic and 60 mm. diastolic. The spleen and liver were not palpated. The extremities and reflexes were negative.

Laboratory Data. The specific gravity of the urine was 1.012, with 1 plus albumin and negative sugar; it was strongly positive for bile and the microscopic examination was negative. The blood revealed a Sahli hemoglobin of 85 per cent, 4,600,000 red blood cells, 26,500 white blood cells, with 86 polymorphonuclear neutrophils, 12 lymphocytes and 2 monocytes. The blood sugar was 113 mgms. per 100 cc., the non-protein nitrogen was 138 mgms. per 100 cc., creatinine 3.4 mgms. per 100 cc. The icteric index was 135, the Van den Bergh was 13 mgms. with an immediate direct reaction. The spinal fluid contained 39 white blood cells, 30 lymphocytes and 9 polymorphonuclears. The fluid was bile stained. The Wassermann was negative. Blood cultures and urine cultures were negative.

Course in Hospital. The temperature on admission was 103 degrees Fahrenheit. It immediately rose to 105 and then suddenly dropped to 99.4. This was

followed by another rise to 102, remaining at this level until the patient's death two days after admission. The patient remained irrational and semiconscious.

A lumbar puncture revealed clear bile-stained fluid under increased pressure. A roentgenogram of the chest showed the lungs to be clear and there was no enlargement of the heart.

The patient was given intravenous fluids and large doses of liver extract intramuscularly but did not respond, and finally succumbed on November 5, 1936. The diagnosis was acute hepatitis.

Pathology. At autopsy it was noted that the body was markedly jaundiced. The striated muscle was fairly well developed. There was no free fluid in the thorax. The serous surfaces showed a striking yellow color.

The heart weighed 430 grams. The coronary vessels were patent; the ascending portion of the aorta was smooth and elastic and the heart itself seemed normal except for the yellow color of the endocardial structures. There were extensive irregular patches of congestion in both lower lobes of the lungs. The trachea and larger bronchi were markedly edematous and injected.

The serosal structures in the abdomen had a marked yellowish color with a greenish tinge. The spleen weighed 100 grams and the cut surface was not unusual. The right kidney weighed 360 grams and the left kidney 430 grams; both were markedly enlarged but moderately firm in consistency. The capsules stripped easily; the cortex and medulla were well differentiated.

The pelves were injected and distinctly yellowish in color; they were not dilated. The ureters appeared normal. The liver weighed 2,180 grams. The capsule was smooth and was pale brownish in color. There were distinct lobular markings of the parenchyma, which was firm and did not show signs of edema. No necrotic foci were noted. The gallbladder was moderately distended with dark green bile. The bile ducts were patent. The calf muscles of the legs were not unusual to gross examination.

Microscopic pathological study showed slight fibrous thickening and small round cell infiltration in the epicardium of the heart. The lungs revealed patches of bronchopneumonia and a purulent bronchitis. There was a moderate increase of polymorphonuclear cells in the spleen. The kidneys showed marked edema and there were scattered foci of interstitial infiltration with small round cells and occasionally a few polymorphonuclear cells. The infiltration was scattered throughout the cortex. The liver showed marked dissociation of liver cell cords and slight edema, partly in the center of the lobules. There were small deposits of bile pigment in the liver cells. Several sections from the striated muscle revealed multiple discrete areas of muscular necrosis with cellular reactions. There were minute hemorrhages and proliferation of the cells of the perimysium, in some areas forming giant cells. The muscle fibers themselves had undergone complete disintegration.

Summary. The presence of severe jaundice with slight changes in an enlarged liver, and also evidence of a marked interstitial nephritis with degenerative changes in the striated calf muscles, was considered diagnostic of spirochetal jaundice.

Comment. It is doubtful whether an accurate antemortem diagnosis could have been suggested in this case. The patient only lived two days after entering the hospital. A coherent history was not available and the patient was so irrational that generalized or calf muscle pain could not be elicited. The laboratory studies were also negative. The pathological picture was so characteristic that it is questionable whether any other diagnosis could be accepted.

CASE II

A white male, L. W., thirty years old, was admitted on December 16, 1938, with a history of having been taken ill fourteen days before admission with high fever, generalized aching, loss of appetite, nausea, and vomiting. After about a week of chills and fever the patient began coughing, with expectoration of considerable quantities of bright red blood. He developed severe pain in the calf muscles and it was noticed that his urine was dark brown in color and that he had become jaundiced, with development of red blotches over his chest and abdomen. The family and past history were irrelevant.

Physical Examination. A husky, well nourished, male, lying quietly in bed, well oriented but markedly jaundiced. The temperature was 103 degrees Fahrenheit. The sclerae were not only jaundiced but several large hemorrhages were noted in both conjunctivae. The neck was not rigid. Several large erythematous areas were noted over the chest wall. An occasional râle was heard in the lung bases. The heart was not

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enlarged, the rate was rapid but regular, the blood pressure was 110 mm. of mercury systolic and 35 mm. diastolic. The liver edge was felt 4 cm. below the right costal margin, the spleen was not palpated. There was marked tenderness on deep pressure over the muscles of both lower extremities, the deep reflexes were hyperactive but there were no pyramidal tract signs.

Laboratory Data. The specific gravity of the urine was 1.025, with a 1 plus albumin and a trace of sugar, it was strongly positive for bile and the microscopic was negative. The blood revealed a Sahli hemoglobin of 80 per cent, with 3,560,000 red blood cells, 15,400 white blood cells, with 95 polymorphonuclear neutrophils, 4 lymphocytes and 1 monocyte. The blood sugar was 105 mgms. per 100 cc., the non-protein nitrogen was 75 mgms. per 100 cc., the creatinine 3.7 mgms. per 100 cc. The icteric index was 176. The total serum protein was 3.9 gms., with 2.9 gms. of albumin, and 1 gm. of globulin per 100 cc. The Wassermann was negative. The blood culture was negative and cultures of the urine, including dark-field studies, were negative for spirochetes. Guinea pig inoculation was reported as negative at a later date.

Course in Hospital. The temperature on admission was 103 degrees Fahrenheit. It gradually dropped in the next two days to 98 degrees Fahrenheit. During this period the pulse increased from 110 to 130 and the respiration from 20 to 40 per minute. The patient was given two blood transfusions and large quantities of glucose intravenously. His jaundice seemed to increase and he developed breath sound changes and more moisture in both lung bases. The patient became semiconscious and died two days after admission. The diagnosis was spirochetal jaundice with terminal bronchopneumonia.

Pathology. At autopsy the body was well developed and markedly jaundiced. There were no hemorrhages into the skin but hemorrhage was noted in the sub-conjunctival tissues of the eyes. There was no free fluid in the thorax.

The heart weighed 425 grams. The ascending aorta and coronary vessels were normal in appearance. The epicardium, endocardium, and myocardium had a normal consistency but were bile stained. The trachea and larger bronchi were moderately injected. There were extensive irregular patches of congestion in both lower lobes of the lungs. The peritoneum was normal in appearance.

The spleen weighed 350 grams; it was soft and the pulp was dark red. The kidneys weighed 350 grams each. They were markedly enlarged and edematous. The capsules stripped easily. The cortex and medulla were well differentiated. The cortex had a definite yellowish-green striation.

A few scattered hemorrhages were present in the mucosa of the pelves. The liver weighed 2,500 grams. It was markedly enlarged. The lobules were fairly distinct, being accentuated by reddish, yellow, and brown areas. No areas of hemorrhage or necrosis were seen. The entire liver was deeply bile stained. The gall-bladder was not unusual. The calf muscles were dark red in color, but normal in consistency.

Microscopic pathological study revealed scattered focal areas of polymorphonuclear infiltration and hemorrhage in the interstitial tissues of the heart. No thrombi were noted. The lungs revealed marked congestion about the blood vessels, with hemorrhage into the alveoli. The polymorphonuclear cells were increased in the pulp of the spleen. The essential changes in the kidneys were scattered focal infiltrations with polymorphonuclear cells, plasma cells and lymphocytes, especially in the cortex. There were no degenerative changes in the tubules, the glomeruli and blood vessels were essentially normal. There was a moderate dissociation of the liver cell cords. The liver cells were distinctly smaller but normal and numerous polymorphonuclear cells and lymphocytes were present in the interstitial tissues. Several sections from the gastrocnemius muscles revealed swollen fibers that had lost their striations. The nuclei and cytoplasm were homogeneous and took a deep eosin stain; other fibers had become completely disintegrated and the remains were identified as irregular eosin-stained masses around which were numerous inflammatory cells.

Summary. The marked degeneration of the calf muscles with evidence of an interstitial nephritis and severe non-obstructive jaundice with only moderate changes in an enlarged liver was considered diagnostic of spirochetal jaundice.

Comment. Although in this case the entire duration of the disease was about ten days, the antemortem diagnosis was suggested when the patient was first seen. The history and the objective findings of jaundice, an enlarged liver, and acutely painful calf muscles, completed the syndrome. The pathological diagnosis substantiated the clinical picture. It must

be noted again that the laboratory studies were negative.

CASE III

A colored male, W. A., forty-two years old, was admitted on August 13, 1938. He had been a patient in May, 1937, and at that time was found to have hypertensive heart disease, generalized arteriosclerosis, and congestive heart failure. Since that time he had attended the outpatient clinic and had apparently been in fair condition up to two weeks before admission. He began complaining of generalized aching about the body, lost his appetite, was nauseated, and had a profuse watery diarrhea. There was some frequency of urination and at times the patient thought he had a fever. Jaundice was not noted at home but he became progressively weaker and was finally referred to the hospital. The family and past history were irrelevant except for the heart condition.

Physical Examination. A markedly dehydrated colored male, apparently alert and oriented. The neck was not rigid, there was marked jaundice of the sclerae, the retinae revealed moderate arteriosclerosis of the vessels. The heart was enlarged to the left, there was a soft systolic apical murmur, the rhythm was regular. The blood pressure was 190 mm. of mercury systolic and 70 mm. diastolic. The lungs were clear, there was generalized tenderness about the abdomen, no masses were palpable, and the extremities and reflexes were negative.

Laboratory Data. The specific gravity of the urine was 1.024, 2 plus albumin and negative sugar, it was strongly positive for bile, and the microscopic examination showed 15 to 20 white blood cells. The blood revealed a Sahli hemoglobin of 75 per cent, with 3,870,000 red blood cells, 8,300 white blood cells, with 84 polymorphonuclear neutrophils and 16 lymphocytes. The blood sugar was 135 mgms. per 100 cc., the nonprotein nitrogen was 150 mgms. per 100 cc., creatinine 7.1 mgms. per 100 cc., total cholesterol 114 mgms. per 100 cc., phosphatase 3.2 Bodansky units. The Wassermann was negative. The icteric index was 296 units. Blood and urine cultures were negative and guinea pig inoculation did not reveal any leptospira at the time of the pig's death.

Pathology. At autopsy the body was poorly nourished and markedly jaundiced. There was a small amount of fluid in the pleural cavity.

The heart weighed 630 grams. The ascending aorta was yellowish in color and the coronary vessels were patent. The heart was generally enlarged; all the tissues were stained yellow. The lungs were a pinkish-gray in color except in the right lower lobe, which was a dark purplish-red. Cut sections revealed similar areas of congestion throughout the deeper portions of the lower lobes. The peritoneum was normal in appearance.

The spleen only weighed 150 grams. It was dark red in color. The adrenal glands appeared normal. The kidneys weighed 220 grams each. They both appeared swollen and less firm than normal. The cortex had a definite greenish-yellow color.

The stomach was not unusual. The gall-bladder was empty and appeared normal. The liver weighed 2,300 grams; it was greenish-yellow in color. The calf muscle was dark red in color but normal in consistency.

Microscopic pathological study revealed large areas of hemorrhage throughout both lungs; many hyaline thrombi were noted in the smaller blood vessels. The heart and aorta were apparently normal. The spleen and adrenals were normal. There was a severe edema of both kidneys and interstitial infiltration with plasma and polymorphonuclear cells. This infiltration was diffuse throughout the cortex and medulla and also through an occasional glomerulus. The convoluted tubules contained numerous polymorphonuclear cells. The liver revealed a severe bile stasis, especially in the central portion of the lobules. A slight dissociation of liver cell cords was present. The skeletal muscle revealed marked degenerative changes, such as basophilic granulation of the muscle fibers and vacuolic changes of the fibers. Several muscle areas contained large ill-defined cells with vesicular nuclei. There was an occasional infiltrated area of muscle with polymorphonuclear cells.

Summary. The marked interstitial nephritis, associated with minor degenerative changes in the liver and the definite evidence of inflammatory reaction in the calf muscle, was considered diagnostic of spirochetal jaundice. It was thought that the lung condition was an associated bronchopneumonia.

Comment. The clinical course and the pathological findings in this case were considered very suggestive of spirochetal jaundice, but again we did not have bacteriological confirmation.

CASE IV

A colored male, E. B., fifty years old, was admitted on September 1, 1939. He had been in good

health until three days before admission, when he started complaining of pain in the abdomen, associated with diarrhea and vomiting. The abdominal pain grew worse and the vomiting and diarrhea persisted. Three days later it was noted that the patient's eyes had developed a yellowish discoloration. The patient became irrational and semi-comatose. The past and family history were irrelevant.

Physical Examination. A semi-comatose, dehydrated, colored male, irrational and disoriented. The neck was not rigid. There was marked jaundice of the sclerae. The lungs were full of coarse rhonchi; the heart was normal. The blood pressure was 140 mm. of mercury systolic and 90 mm. diastolic. The abdomen was held tensely but no masses were palpable. The left knee was ankylosed, due to an old injury. The reflexes were negative. The semi-conscious state of the patient prevented a determination of any tender areas about the body.

Laboratory Data. The specific gravity of the urine was 1.020, 1 plus albumin, and negative sugar; it was strongly positive for bile, the microscopic examination was negative. The blood revealed a Sahli hemoglobin of 65 per cent, with 3,400,000 red blood cells, 24,000 white blood cells, with 88 polymorphonuclear neutrophils and 12 lymphocytes. The blood sugar was 120 mgms. per 100 cc., the non-protein nitrogen was 130 mgms. per 100 cc. The icteric index was 208 units. The total cholesterol was 87 mgms., free cholesterol 50, cholesterol esters 37 per 100 cc. The Wassermann was negative.

Course in Hospital. The temperature on admission was 100.4 degrees Fahrenheit, pulse 130, respiration 40. The patient only lived for four hours after admission.

Pathology. At autopsy the body was that of a well nourished colored male. All of the tissues were markedly jaundiced. There was no fluid in the pleural cavity.

The heart and aorta were normal except for the jaundice. There was a moderate congestion in both lungs, especially in the lower lobes.

The spleen weighed 175 grams and was dark red in color. The adrenal glands were normal in appearance. The kidneys weighed 250 grams each. They were definitely increased in size. The capsules stripped easily. The surface was pale red, smooth, and glistening.

The stomach and gall-bladder were not unusual. The liver weighed 2,000 grams. It was approximately normal in contour and size but was bile stained. No obstructive lesions were found in the bile ducts. The calf muscle was normal in consistency and had a dark red appearance.

The microscopic pathological study revealed major changes in the liver and kidneys. The liver damage was characterized by a severe dissociation of the liver cell cords, bile pigmentation of liver cells which contained numerous mitotic figures. There was a severe edema of both kidneys with interstitial infiltration by plasma and polymorphonuclear cells. One section through the calf muscle was negative for inflammatory reaction. Numerous spirochetes were found in the kidneys, spleen, and liver.

Summary. The moderate degenerative changes in the liver and the acute hematogenous interstitial nephritis, with the finding of numerous spirochetes in the kidneys, spleen, and liver, was diagnostic of spirochetal jaundice.

Comment. The interesting factor in this case was the rapidity of the disease, the entire course not lasting over four days. This rapidity may have accounted for the lack of degenerative changes in the calf muscle. The finding of spirochetes was diagnostic of Weil's disease.

CASE V

A colored male, C. Y., sixty-eight years old, was admitted on September 4, 1939. It was stated that he had complained of generalized weakness and aching about the body for several weeks. There was loss of appetite with some vomiting and it had been noted that the patient complained of feeling chilly and was feverish at times. The patient gradually became worse and on admission to the hospital was irrational. There had been two previous admissions. In 1936 a diagnostic of gastric ulcer was established and in 1938 a right indirect inguinal hernia was repaired. Otherwise the past history was essentially negative.

Physical Examination. An emaciated, irrational, very old, colored male, with marked yellowish discoloration of the sclerae. A few moist râles were heard in the bases of both lungs, the heart was not enlarged, there were no murmurs, the heart sounds were indistinct. The blood pressure was 150 mm. of mercury systolic and 95 mm. diastolic. The abdomen was scaphoid, no rigidity or tenderness was elicited. The liver edge was felt just below the costal

margin. There was marked tenderness in the calf muscles. The reflexes were normal.

Laboratory Data. The specific gravity of the urine was 1.016, 1 plus albumin, and negative sugar; it was strongly positive for bile, and revealed 60 to 70 red blood cells per high power field, with a rare cast. The blood revealed a Sahli hemoglobin of 85 per cent, with 4,100,000 red blood cells, 9,200 white blood cells, with 80 polymorphonuclear neutrophils, 2 eosinophils, 3 monocytes, and 15 lymphocytes. The blood sugar was 150 mgms. per 100 cc., the non-protein nitrogen was 163 mgms. per 100 cc. The creatinine was 5.7 mgms. and the icteric index was 179 units. The Wassermann was negative.

Course in Hospital. The temperature on admission was 100 degrees Fahrenheit. It was intermittent during the stay in the hospital and rose as high as 104 degrees. At the time of death the temperature was 98 degrees. A roentgenogram of the chest did not reveal any enlargement of the heart and there was no evidence of any unusual changes in the lungs. A gastrointestinal X-ray examination was negative. The urine continued to show large quantities of bile, but the red blood cells diminished. The white blood count rose to 15,000 cells with 88 polymorphonuclear neutrophils, 10 lymphocytes, and 2 monocytes. The non-protein nitrogen finally reached 320 mgms. per 100 cc. The creatinine was 10 mgms. and the icteric index was 137 units. A dark-field examination of the urine demonstrated many spirochetes. The guinea pig inoculation was negative for spirochetes. A specimen of blood was sent to Dr. Packchanian, National Institute of Health, and was reported as being strongly positive, agglutinating to a high titre for leptospira icterohemorrhagiae. The patient's course was progressively downwards and he finally succumbed on September 16, 1939, twelve days after admission. The diagnosis was spirochetal jaundice.

Pathology. At autopsy the body was that of a slightly emaciated colored male. All of the tissues were markedly jaundiced. There was a moderate congestion of both lungs. The heart was not enlarged and the aorta showed moderate atherosclerosis.

The spleen was approximately normal in size and weight. It was purplish-red in color. The adrenal glands were normal in appearance. The kidneys were moderately enlarged. The capsules stripped easily. The cortex was slightly thickened. The left kidney showed yellowish, rounded, nodular foci containing necrotic material. The surface was a mottled, yellowish-brown color. The stomach and gall-bladder were not unusual.

The liver weighed about 2,000 grams. It was slightly enlarged and was greenish stained throughout. No obstructive lesion was found in the bile ducts. The calf muscles were normal in appearance and had a dark red color.

The microscopic pathological study revealed major changes in the liver and kidneys. There was a slight dissociation of liver cell cords and bile pigment was present in a great many of the liver cells. The liver cells also contained numerous mitotic figures. Both kidneys were markedly edematous and throughout the cortex and medulla diffusely scattered round cells and polymorphonuclear cells were seen. These foci were more numerous in the cortex than in the medulla. There were numerous bile-stained casts in the tubules. Sections throughout the gastrocnemius muscle contained swollen, degenerated muscle fibers and numerous inflammatory cells.

Summary. The acute hematogenous interstitial nephritis with dissociation of liver cells and striated muscle change were all present in this case. The positive dark-field examination on the urine and the positive agglutination of the blood completed the syndrome of spirochetal jaundice.

Comment. In this case the clinical picture was quite characteristic of the disease and in addition the dark-field examination of the urine revealed spirochetes and agglutination studies were also positive. Pathological studies substantiated the clinical picture.

CASE VI

A colored male, J. E., twenty-five years old, was admitted on August 12, 1940, complaining of headache and abdominal soreness. He had been well until five days before admission, when he suddenly developed cramps, followed by a chill. He then complained of headache, generalized aching, and fever. The patient vomited every day but there was no diarrhea. The day after the onset of his illness it was noticed that his eyes had become yellow. Recently he had received five intravenous injections for syphilis, the last injection about one month before admission. The family and past history otherwise were negative.

Physical Examination. An acutely ill, young, colored male, slightly stuporous but not irrational.

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There was marked jaundice over the sclerae and several sub-conjunctival hemorrhages. The chest and lungs were normal. The heart was not enlarged, there were no murmurs, and the rhythm was regular. The blood pressure was 115 mm. of mercury systolic and 70 mm. diastolic. The abdomen was soft, with generalized tenderness, but no masses were palpable. There was some generalized muscular tenderness, both in the arms and in the legs. The reflexes were negative except for diminished knee and ankle jerks.

Laboratory Data. The specific gravity of the urine was 1.014, two plus albumin, sugar and acetone negative, it was slightly positive for bile and there were many white blood cells and an occasional red blood cell per high power field. The blood revealed a Sahli hemoglobin of 89 per cent, with 3,480,000 red blood cells, 17,100 white blood cells, with 86 polymorphonuclear neutrophils, 13 lymphocytes, and 5 monocyte. The blood sugar was 118 mgms. per 100 cc., the non-protein nitrogen was 204 mgms. per 100 cc., creatinine 4.8 mgms. per 100 cc., the icteric index was 168 units. The total cholesterol was 115 mgms., with free cholesterol 56 mgms., cholesterol esters 59 mgms. per 100 cc. The total serum protein was 6.1 grams, with 3.7 grams of albumin and 2.4 grams of globulin. The Wassermann and Kline were positive. Dark-field studies of the urine revealed spirochetes and the blood agglutination was 1-100,000 for leptospira ictero hemorrhagiae.

Course in Hospital. The temperature on admission was 100 degrees Fahrenheit. It gradually dropped to normal in the next few days and remained normal for the entire stay in the hospital. The pulse rate and respiration during this period were within normal limits. The patient gradually improved on symptomatic treatment. The urine still showed a heavy trace of bile but the white blood cells disappeared. The white blood count dropped to 7,300, with 56 polymorphonuclear neutrophils, 3 eosinophils, 34 lymphocytes, and 7 monocytes. The icteric index increased to 250 units but then gradually returned to normal. The non-protein nitrogen also gradually reverted to normal, the final determination being 34 mgms. per 100 cc. The total cholesterol rose to 153 mgms., with free cholesterol 52 mgms., and cholesterol esters 81 mgms. per 100 cc. The patient improved gradually, but finally tired of the hospital and signed his release, thirteen days after admission. We have been unable to follow him since then, but assume that he is now in normal health.

Comment. The interesting factor in this case was the very high titre of agglutination. The acute febrile onset, with jaundice and generalized tenderness over the body, was considered diagnostic of Weil's disease.

CASE VII

A white male, C. M., thirty-three years old, was admitted on August 30, 1940, with a history of having been taken ill five days before admission, with aching over his entire body. He developed a cough and some vomiting, abdominal cramps were very severe, and he had several hard shaking chills. The patient was a junk dealer and had been working up to the time of the onset of his illness. His past history and family history were essentially negative.

Physical Examination. A dehydrated, well nourished, white male, acutely ill but coherent and rational. The neck was not rigid, there was marked jaundice of the sclerae, the chest and lungs were negative. The heart was normal, there were no murmurs or irregularities in rhythm. The blood pressure was 120 mm. of mercury systolic and 60 mm. diastolic. The abdomen was held rigidly and was quite tender, but no masses were palpated. There was pain and tenderness on pressure over all extremities, the reflexes were normal.

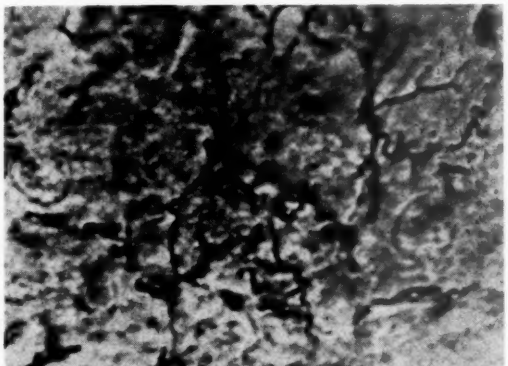

Fig. 1.—Microphotograph from section of guinea pig liver, showing spirochetes, from Case VII.

Laboratory Data. The specific gravity of the urine was 1.020, with 2 plus albumin, negative sugar. It was strongly positive for bile and the microscopic examination was negative. The erythrocyte count was 4,200,000 with a hemoglobin of 88 per cent (Sahli), 8,700 white blood cells, with 77 polymorphonuclear neutrophils, 6 eosinophils, 12 lymphocytes, and 5 monocytes. The prothrombin time was 18 seconds, the mean corpuscular hemoglobin 29.8,

the mean corpuscular voulme 100, the mean corpuscular hemoglobin concentration 29.5 The blood sugar was 110 mgms. per 100 cc., the non-protein nitrogen was 78 mgms. per 100 cc., creatinine 3 mgms. per 100 cc., the icteric index was 46. The total cholesterol was 105 mgms., with free cholesterol 67 mgms. and cholesterol esters 38 mgms. per 100 cc. The total serum proteins was 6 grams per 100 cc., with 3.2 grams of albumin and 2.8 grams of globulin. The Wassermann and Kline were negative. The Mosenthal concentration test revealed a variation in specific gravity from 1.011 to 1.017. The hippuric acid test performed orally caused an excretion of 3.5 grams of hippuric acid. The dark-field examination of the urine was negative for spirochetes and the blood culture was also negative. Guinea pig inoculations were performed.

Course in Hospital. The temperature on admission was 105 degrees Fahrenheit. It dropped very rapidly to normal within twenty-four hours and then was intermittent, rising to 103 degrees and returning to normal for the last five days of hospitalization. The pulse and respiration were not unusual. The patient improved very rapidly. The urine gradually was cleared of bile, the hemoglobin rose to 95 per cent, and the white blood count rose to 15,700, but then dropped to normal. The non-protein nitrogen gradually dropped to 39 mgms. per 100 cc., the icteric index rose to 54 units, but finally returned to normal. The total proteins at the time of discharge was 7.8 grams, with 4.2 grams of albumin and 3.6 grams of globulin. The total cholesterol rose to 151 mgms. per 100 cc., with free cholesterol 96 mgms., and cholesterol esters of 105 mgms. per 100 cc. The inoculated guinea pig died fourteen days afterwards and at autopsy the pig was markedly jaundiced. There was congestion with gross hemorrhage in both lungs, the liver and kidneys. Microscopic sections through all structures revealed innumerable spirochetes. The patient was discharged fourteen days after admission and was seen two months later in the outpatient clinic. He seemed to be in normal health at that time.

Comment. Although most of the other cases came from the poorer strata of population, in which living conditions and sanitation facilities were not of the best, this is the only case in which the patient's occupation may have been a factor in the development of this disease. He may have come in contact with rats or sewerage by the handling of junk. This was the only case in our series in which the guinea pig inoculation was positive.

DISCUSSION

On account of the infrequent number of cases, most of the American literature consists of individual case records, such as the reports of Mulholland and Bray,[1] Jeghers, Houghton, and Foley,[2] Gaines and Johnson.[3] It has been emphasized by these observers that, although severe jaundice is usually present, there is very little evidence of liver damage. In our cases, in which chemical studies of the blood proteins and cholesterol were performed, there again seemed to be very little change suggesting severe liver damage.

We feel that, although there is little anatomical change, there must be a rather severe functional derangement of the liver. The interstitial nephritis is always out of proportion to any other pathological finding and we believe the kidney involvement usually causes the death of the patient. Although there is no definite proof as to the cause of the kidney involvement, the actual presence of spirochetes in kidney tissue, or at least some toxic substance elaborated during the course of the disease, must produce the widespread interstitial involvement.

There has been no accepted treatment for this disease. Gordon and Feldman[4] suggested the usual supportive treatment for liver damage, such as, intravenous injections of glucose and saline, transfusions, and alkalinization. Tokuyama[5] advocates the serum treatment as inaugurated by Inado and Ido[6] in 1922. It is felt that it would be wise to use both serum and supportive treatment in all cases, but the serum is very difficult to obtain. It is possible that we may be able to prepare a serum from some of our cases that have recovered and use this serum when necessary in the future.

There is no reason why we should not be able to recognize spirochetal jaundice more often in the United States. If more health laboratories were able to perform agglutination studies for leptospira it would be very simple to send the blood of a suspected case to these laboratories as we do for other diseases such as typhoid fever. Jeghers et al[2] state that, in 1933, twelve-hundred specimens of blood from persons suspected of having Weil's disease were examined at the Pasteur Institute of Paris and agglutination with the leptospira was obtained in 23.1 per cent. It seems to us that the clinical diagnosis is very often missed because the observer feels that the

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disease is foreign to his locality. The syndrome of an acute febrile state, with generalized aching and tenderness over the body and jaundice, should at least suggest Weil's disease. It is our belief that, if dark-field studies on the urine and blood, with guinea pig inoculations and agglutinations were performed on more cases that have the above syndrome, the disease would be found to be very common in our country as well as abroad.

CONCLUSION

Seven cases of spirochetal jaundice are reported in detail. Five of these cases had complete autopsy studies and the other two cases recovered. It is considered that spirochetal jaundice is easy to diagnose with proper laboratory aid.

NOTE: We wish to thank the Departments of Pathology and Bacteriology for their help in compiling this study.

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THE CLINICAL USE OF HEPARIN FOR THROMBOSIS.*

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Prior to the introduction of heparin for clinical use, the clinician who was confronted with the problem of the treatment of sudden occlusion of a vessel by a thrombus had very few tools at his command. The only method that offered much success was prompt removal of the thrombus from the affected vessel and this was usually followed by prompt recurrence. We now have at our disposal a much improved method of treatment for such conditions. Although the clinical use of heparin in the treatment of thrombosis is still in the experimental stage, several facts have come to light which lead one to believe that we now have an effective means of dealing with the problem of thrombosis.

Most clinicians are aware that stasis in the blood stream plays an important role in the development of a thrombus; injury to a blood vessel, the state of the intima of the blood vessel, the immobile state of the bed-ridden patient, and other factors are important in thrombus formation. The climate appears to be a factor; thrombosis tends to be more prevalent in the colder than in the warmer climates, hence the higher incidence in the northern states and countries than in the South. Certain surgical procedures make a post-operative thrombus more likely to occur—operations in the pelvic region, upon a blood vessel in the midst of crushed tissues of the lower extremities, splenectomy; age is a factor, thrombosis being much more common among older patients.

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Presented in part before the Richmond Academy of Medicine, March 27, 1940.

CLINICAL REPORTS

The first workers to use heparin clinically in post-operative cases were the Swedish internists, Hedenius and Wilander, who showed that by repeated intravenous injections of heparin they could keep the clotting time well above fifteen minutes for at least fifteen hours. Their report was followed by that of Murray and Best, who stated that they had used the drug in 315 cases (in a later article, 440 cases) and had noted no signs of embolus or thrombo-phlebitis where heparin was used. These were specially selected cases from a group in which a definitely high incidence of pulmonary embolus and thrombo-phlebitis had been noted before heparin was introduced into the post-operative treatment regime. Crafoord, in Sweden, has reported on 117 cases in which heparin was given. In these 117 cases only four patients developed a thrombus and in each of these four patients the treatment had been stopped for some reason or other. In a control group of equal number, no heparin was given; Crafoord noted

slight signs of thrombosis in thirty-three cases and definite thrombosis in twenty cases. It will be seen from the papers mentioned above that heparin seems to have a definite effect in lowering the incidence of thrombosis and embolism in post-operative cases.

As to the results of the use of heparin post-operatively in splenectomy cases, the work of Murray and McKenzie should be noted. These workers showed that in dogs, if the splenic vein was severely crushed during splenectomy before ligation and removal of the spleen, seven out of nine non-heparinized dogs operated ten days later showed definite thrombosis of the splenic vein. In eight other dogs in which continuous heparinization was carried out for three to four days after splenectomy, these animals when operated on later showed the splenic vein to be patent. In eight human cases of splenectomy, heparin was given post-operatively. In no case was any symptoms or sign of thrombosis of the portal system noted.

When the central vein of the retina becomes thrombosed, about 95 per cent of such patients show total and permanent blindness in the affected eye. Ploman has now reported on nine patients in which heparin was used after sudden occlusion of the central vein of the retina of one eye by a thrombus. In five of these patients good vision finally redeveloped in the affected eye when heparin was given for from six to ten days after the thrombosis occurred. In three cases no improvement was noted.

The writer has recently seen two cases of cavernous sinus thrombosis treated at the Massachusetts General Hospital. These patients were given continuous heparin infusions intravenously (with sulfathiazole) very shortly after the thrombosis occurred. The outcome was good in each case, a fair amount of vision returning, with only ocular palsy remaining. These are the first cases of cavernous sinus thrombosis which have survived, to my knowledge.

There have been no reports of any value on the clinical use of heparin in coronary thrombosis but the experimental work of Best and Solandt holds out what may be a ray of hope. It is too early as yet to know what we may expect from the further use of heparin in this condition. Best and Solandt injected sodium ricinoleate, a sclerosing solution, into either the main trunk or the left branch of the coronary artery in dogs under nembutal anesthesia. In thirteen control dogs in which no heparin was used, twelve developed definite myocardial degeneration and eleven of the thirteen showed definite coronary thrombosis. In twelve dogs in which continuous heparinization was carried out for forty-five days after the coronary arteries were injected with the sclerosing solution, only one dog showed any sign of myocardial degeneration.

Several reports have appeared on the use of heparin and sulfapyridine in the treatment of subacute bacterial endocarditis. The results have not been encouraging and several deaths from cerebral accidents have been observed during the heparin treatment. Since the mortality in this condition is almost 100 per cent, it is justifiable that this plan of treatment be further investigated in the hope that the mortality may be reduced, but it is likely that this treatment will not afford much success in reducing the high mortality of this condition.

METHODS OF ADMINISTRATION OF HEPARIN

Several methods have been developed for the administration of heparin. There are essentially only two methods that are useful in treating hospital patients. First, the Swedish clinicians have given up the administration of heparin by the continuous intravenous drip method and are now resorting to the injection of heparin solutions every two or three hours, keeping up the injections for from four to six days. Crafoord treats most of his cases in this way, giving about 50 mgms. of heparin (approximately 5,000 units) every two hours, for four to five days post-operatively. By this method the clotting time is raised quickly from a normal of four to five minutes to from fifteen to twenty-eight minutes. Two hours after the injection the clotting time has usually returned to normal. It will be understood that there will be a great variation in the clotting time of patients treated in this way. It would appear that if it is decided to treat a patient with heparin it would be well to keep his clotting time at around twenty minutes for most of the time rather than for only short periods after each injection. Nevertheless, by this method Crafoord has been able to effectively lower the post-operative thrombosis complication in his patients.

The following method of administration of heparin is the one used by most clinicians in this country and in Canada. Heparin solution is obtained from the Connaught Laboratories, University of Toronto, Toronto, Canada, in 10 cc. vials. Each cc. contains

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approximately 1,000 units of purified heparin. The contents of a 10 cc. vial are mixed with 1 liter of either sterile normal saline or 5 per cent glucose in saline; if one wishes, a less dilute solution may be used, e.g., in the treatment of patients in whom cardiac decompensation is feared. Just before the continuous administration of this heparin solution is begun the patient is given 5 cc. of the undiluted heparin solution, i.e., about 5,000 units, intravenously. This amount of heparin will quickly raise the clotting time from a normal of four to five minutes to fifteen to twenty minutes. If this initial injection is not given, one may find that it will take hours before the clotting time is raised much above normal. Then the diluted heparin solution is given to the patient by constant intravenous drip at from fifteen to twenty-five drops per minute. One will usually find that the patients will require from 1,000 to 1,500 units per hour during the first or second day of treatment, after which the requirement may be only 500 to 1,000 units per hour. About the fourth day of such treatment it will usually be noted that the requirement for heparin is less. Most workers tend to use the arm vein for the constant intravenous drip but several patients have mentioned to the writer that they were much more comfortable when the intravenous injections were given in the foot rather than in the arm vein.

The clotting time is best determined by the Lee-White method. It is essential that small tubes be used with this method and that at least three tubes be used for each determination. Venous blood is drawn and 1 to 2 cc. placed in each of these small tubes. Every thirty seconds to one minute the first tube is inverted to note if clotting is occurring. When clotting is taking place in the first tube the second tube is inverted and when it is beginning to clot, the third tube is inverted in like manner and inverted every thirty seconds until clotting has occurred. The clotting time is taken to be that found for the third tube. It is essential that these tubes be clean and kept at room temperature. This method gives much more accurate results than the capillary tube method. The clotting time should be checked at least three times daily so that if not enough (or too much) heparin is being given, the rate of administration can be changed. In general it is best to keep the clotting time of a heparinized patient at about twenty to thirty minutes. It will be found that after such a clotting time is reached the administration of only slightly larger amounts of heparin will markedly raise the clotting time, just as will slightly smaller amounts lower the clotting time. One of the great difficulties in the treatment is maintaining an even level of the clotting time. This is especially true during the first day of treatment. The services of an attendant are needed to constantly supervise the flow of the heparin solution.

If it is desired, sulfanilimide or sulfapyridine therapy can be carried on while the patient is under heparin treatment and this does not seem to change the clotting times. One can give, if necessary, intravenous sulfapyridine in one vein while the patient is receiving heparin solution in another vein.

Several points of interest come up for consideration. It must be remembered that patients with staphylococcus infections, especially those with bacteremia, tend to form thrombi even during heparin administration. The writer has seen recently two such cases of a second pulmonary embolus forming during the course of adequate heparin treatment for the first pulmonary embolus. In both of these cases the patients had a much milder course following the second embolus than after the first. Sometimes it appears that even with the heparin treatment, the patient with a pulmonary embolus is just able to make the grade, i.e., he may do fairly well but when heparin is stopped he seems to do poorly, to improve again when the heparin is restarted. It would appear here that heparin is preventing further deposition of platelets distally in the affected vessel and thus keeping the collaterals open.

Some may ask whether heparin should be given prior to an operation rather than waiting until several hours have elapsed following the operation. Crafoord has concluded that it is best not to give heparin before or during an operation because he has noted the formation of a small hematoma in the operative site when heparin had been given during the operation. He prefers to let two or three hours elapse after an operation before starting heparin. This is likewise the view taken by the Toronto investigators, Murray and Best. Heparin should probably not be given to a patient with a prolonged clotting time or to one who has any peculiar bleeding tendencies. Heparin should be discontinued if during the intravenous administration fever, chills, headache or weakness is

noted. These side effects have been observed even with the highly purified preparation. Care should be taken to note any allergic response to heparin. In treating patients with subacute bacterial endocarditis with heparin and sulfapyridine it should be explained to the family that there is a definite danger of intracerebral bleeding in such patients. The writer has now heard of seven such cases. If bleeding phenomena should be noted during heparin treatment it would be well to stop the heparin immediately. This has been noted in several cases and severe bleeding from the bowel was noted by Dr. I. A. Bigger. Heparin was stopped and the bleeding ceased shortly after. In the heparinized patient one can bring the clotting time back to normal within two or three minutes by the intravenous injection of either protamine insulin or a 2 per cent solution of salmine. Salmine may be procured from Merck & Company and made up freshly in a 2 per cent solution. Only a few mgms. of either drug will be needed to bring the clotting time to normal. If protamine insulin is used, it must be covered by enough glucose, either by vein or mouth, to insure that the blood sugar will not be lowered.

When heparin is used following an operation upon a blood vessel or for a heart wound, it is imperative that the heparin be started immediately. In fact, it is well to place some of the heparin solution directly into the blood vessel at its suture line. If the heparin in these cases is not started immediately, thrombosis may take place in the affected vessel.

While the patient is being kept in bed and heparin is being given by the constant intravenous method, it is well to see that the patient moves about freely in bed to promote better drainage, especially of the lower limbs. The nurse or attendant should exercise the limbs by moving them about as in passive exercises. This is most important for the lower limbs, and the exercises should be carried out several times each day.

Some may wonder as to how long the heparin therapy should be kept up, once it is started. In the treatment of pulmonary embolus it is perhaps well to continue the heparin for from ten to fourteen days. Most surgeons usually continue the treatment for from four to six days following an operation in which thrombosis is feared. In post-splenectomy cases it would be wise to continue the heparin treatment for as long as there is a marked elevation of the platelet count, and this usually lasts for from ten to sixteen days; the platelets in some cases may rise to above one million and thrombosis is very common.

As to the cost of treatment: if Crafoord's doses were used the cost would be around $25 a day. With the method outlined above, the cost might run from $3.00 to $10.00 a day. It will be seen that heparin therapy is still a somewhat costly procedure, though life-saving in many instances.

A useful bibliography is appended.

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This subject is particularly well presented in its entirety, both as to fundamentals and clinical usage in the very recent book: Heparin, by J. Erik Jorpes, Oxford University Press, London, 1939. This book is available in the Medical College of Virginia Library.

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REMEMBRANCES—PERSONAL AND OTHERWISE.*

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One evening in the early fall of 1883, a number of young men, who had arrived in Richmond preparatory to entering upon the study of medicine, assembled with many citizens of Richmond in the lecture room of the Egyptian Building, and heard addresses from members of the faculty. The statement was made that the class of that year was the largest since the time on the eve of the War Between the States, when Hunter McGuire had brought from a northern medical college more than one hundred Southern boys who matriculated at the Medical College of Virginia. Among the members of the faculty that year was the distinguished Doctor Robert T. Coleman, a gentleman of culture, and a gifted teacher. After occupying the chair of obstetrics through several months, his health failed, and he gradually went down "through the valley of the shadow of death." His passing cast a gloom over the faculty and the student body.

Hanging on the wall of my office is a diploma worded in classic Latin, containing the signatures of the eight members of the faculty who taught throughout the session ending April 2, 1885. The fifty-five years have almost obliterated the signatures. A few words about these stalwart men may not be amiss.

Martin L. James, Dean, and Professor of the Practice of Medicine, a gentleman of excellent parts, who took deep interest in the students, and was friendly to every one of us.

John S. Wellford, of middle age, who discussed in a forceful way the diseases of women and children, before the germ theory of disease had been universally accepted. However, he had evidently received a dim light on the subject, because he taught that diphtheria was not, as many believed, a *local,* but a "*constitutional* disease."

J. S. Dorsey Cullen, son of Doctor John Cullen, the brilliant Irishman, who was a founder of the college and first professor of the practice of medicine. Doctor Dorsey Cullen, our professor of surgery, was a fluent speaker, and a man of pleasing personality. He had had large experience as a surgeon in the Confederate Army, was alert, and knew when to cut, how to cut, and when not to cut. It was said of him, "His commanding presence continued to give pestige to the department of surgery 'til his death in 1893."

John Nottingham Upshur, the son of Doctor George L. Upshur, the faithful physician, who remained at his post in his home town of Norfolk during the summer of 1855, when that city was visited by the dreadful scourge of yellow fever, and who unfortunately contracted the disease and died during the epidemic.

This son of the heroic father had been a student at the Virginia Military Institute, and went with that group of patriotic youths who fought the bloody battle of New Market, of which he was too modest to speak. He lectured on materia medica and therapeutics, wrote and published numerous theses on medical subjects, and served a term as president of the Medical Society of Virginia.

George Ben Johnston occupied the chair of anatomy in 1883-1884, and, later, that of surgery. He was a man of fine appearance, brainy, witty, genial, and very much admired by both the laity and the profession. His surgical skill brought him a large and lucrative practice in, and far beyond the confines of the city of Richmond. He performed the first two nephrectomies reported in Virginia, in 1899. (From Medicine in Virginia in the Nineteenth Century.)

H. H. Levy, a clean and scholarly man, well versed in physiology and pathology, which he taught in an impressive manner.

William H. Taylor, Assistant Surgeon in the Confederate Army, was known as "the sage of Grace Street." He was professor of chemistry, toxicology, and medical jurisprudence, and was recognized far and wide for his profound knowledge of those sciences.

He filled the office of coroner of Richmond for forty-four years, and held inquests over 10,000 bodies. He was often called to the various places in this State to make analyses of the stomach contents of persons suspected of having died from the effects of poison. When on the witness stand, lawyers who had never met him sometimes tried to entrap and embarrass him, but his unique answers to their questions brought to court visitors laughter of ridicule

*Address before Roanoke Alumni of the Medical College of Virginia, May 21, 1940.

that put a quietus to the blustering attorneys. He was myopic, and used a large magnifying glass. You have heard the answer he gave when a lawyer asked him in sarcastic voice, how far he could see, when he replied "ninety-seven million miles" and added, "I can see the sun."

Christopher Tompkins, well versed in anatomy and obstetrics, both of which he taught very thoroughly. He was a modest gentleman, deeply interested in his work, respected by all his brother physicians, upright and ethical, honored by his students, and loved by his patients.

Doctor James Brown McCaw had served as professor of chemistry and other subjects over a period of twenty-five years. Through the sessions of 1883-1884, he lectured in a wise and fascinating way on the practice of medicine. He had been a surgeon in the Confederate Army, and under his guidance the Chimborazo Hospital was planned and erected. It was the largest Military Hospital that functioned during the war, and probably the most sanitary. The sick and wounded soldiers treated there between the years 1861 and 1865, numbered 77,000, and the fatalities were 7,000. At the close of the session of 1884, Dr. McCaw, to our regret, resigned from his professorship.

At the end of the session of 1884, one of the graduates, "Dan" Coleman, aged eighteen years, of small stature, and weighing less than a hundred pounds, received a prize for excellent progress in his studies. The presentation speech was made by Dr. McCaw, tall, handsome, and the personification of grace and dignity. He looked down at the little lad, and began his address—*"Doctor"*—then paused a moment while the audience rang with laughter and applause at the striking contrast; then proceeded with a complimentary and eloquent address.

Doctor Daniel Coleman practiced his profession with excellent success in the city of his birth, and was a teacher at the College for a number of years.

I received my diploma from the Medical College of Virginia on the stage of the historic old Richmond Theatre, April 2, 1885, two days before my birthday. On the morning of that memorable day, Dirk A. Kuyk, who had been my room mate through the session, went with me down below the city on the James, secured a row boat, and engaged in the sport of fishing until mid-afternoon. We had been very busy studying in preparation for the approaching final examinations. The day was clear and balmy, the water calm and inviting. At one o'clock, we ate our big luncheon, and enjoyed it as we had not relished a meal for a long time. We had a pleasant walk from 408 North Twelfth Street, where we had resided, studied and enjoyed the friendship of the interesting family of Mr. W. C. Adams, through the previous six months.

The delightful rowing, the thrill of catching fish with hook and line on the gently flowing historic James, I recall with pleasure. Among the poems of the gifted and beloved Cally Ryland, there is this bit of verse, entitled,

GOIN' A-FISHIN'.

I'se gwinter take a day off en go fishin',
A-fishin' fer de cat fish en de chub,
I'se tihed ov settin' here en wishin', wishin',
I's tihed ov wuckin' hard to buy mah grub.

I wants ter get out whar de sun is soakin',
En' whar de water laps aroun' mah feet,
En' whar no body hollers if I'se smokin',
En' keers ef I'se dirty er I'se neat.

That night an audience of cultured men and women honored the class with their presence.

A few weeks after receiving our diplomas, Dr. Kuyk and I appeared before the State Medical Examining Board at its first meeting. We were both given certificates that permitted us to apply for license to enter upon the practice of medicine. Dr. Kuyk confined his work to diseases of the eye, ear and throat, and was very successful in the specialty. Later he studied in hospitals on the European continent.

One afternoon, early in the month of May, 1885, I landed in the lunatic asylum at Williamsburg—where I had been given the position of intern. It was the oldest institution of its kind on the American continent, having been established in 1773. On one occasion, shortly after my arrival in that city, two little girls in the company of a young lady friend of mine looked at me in a rather uneasy and quizzical manner, and one of them asked the lady in a low voice, "Is he a patient?" Children are usually close observers, and often correct in their views concerning the qualities of people. To be taken for a crazy young man, in the incipient stage of my profession, was rather distressing.

After leaving the Eastern State Hospital, I went up to Palmyra, the county seat of Fluvanna, and began the practice of medicine. My first minor operation

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was the reduction of a prolapsed lower bowel, the patient being a small negro child. I soon learned that country doctors were expected to practice on dumb animals, such as cows, horses, sheep, dogs, and hogs. A motherly old lady invited me to her house one morning, and said, "Nobody is sick in my family, and I am almost ashamed to say why I sent for you. My cow is in a dreadful fix, and if you will relieve her, I will pay you five dollars." Going to the stable, I discovered that the animal had suffered a complete prolapse of the uterus. The organ was covered with debris from the stall. After using soap and warm water plentifully, I manipulated the organ, and returned it to its proper anatomical region, and to my great surprise, she had an "uninterrupted recovery." I wondered why she did not die of puerperal septicæmia. Perhaps that disease does not attack the bovine tribe. The fee was paid, and the owner expressed high appreciation for the restoration of her good family milch cow.

Shortly after I reached Palmyra, a local painter prepared an attractive sign, swung it high above the heads of passing pedestrians and equestrians, where it waved and rattled in the breezes, laden with the aroma of Fluvanna persimmons. A young prospective father saw it, and when the time arrived for the birth for which he had been looking, he sent for me. After many hours had passed, and I had worked vigorously, doing much that was not necessary, I became uneasy and sent in haste for the old doctor, who came and said, "Everything seems to be all right." It was true. Then the brisk winds continued to blow, to shake and rattle the sign over the road by the hotel, but it brought not another call to a parturient during my stay in the community.

In the autumn of 1883, from the town of West Point, where the Pamunkey and the Mattaponi unite to form the historic York, a young man of attractive personality, went up to the City of Richmond, and entered as a student at the Medical College of Virginia. Two years later, he graduated. Then he left the low grounds of the Virginia Peninsula and journeyed to the top of the Alleghany Mountains, where for several decades he practiced his profession. Later he moved with his interesting family to Roanoke, where he still resides. Let us congratulate this worthy member of our local Alumni on the fact that no other graduate of the Medical College of Virginia, in all its history of 100 years, has become the father of five boys, all of whom secured diplomas from that institution. Like Abou Ben Adhem, he will be remembered as "one who loved his fellow men." He is Doctor J. Gibson Davis. "May his tribe increase!"

While practicing in York County, the son of a prominent farmer consulted me about the condition of his father. I prescribed hydrochloric acid in fifteen drop doses, well diluted. Some days later, I met the old gentleman. He said, "That medicine you sent me like to have killed me. It took the lining off of my throat." I asked, "How much did you take at a dose?" He answered, "A teaspoonful." "In how much water?" His reply was "None. I took it *reverent*." But he added, to my comfort, "It sure did help my stomach trouble."

In the case of a pneumonia patient, there were two small bottles of the same size and color on a table; one containing a mild sedative, marked "Dose, one teaspoonful," the other, "Tincture of Aconite, Dose, one drop." The son-in-law of the delirious man was told to give him a dose of the sedative. He was about to give a teaspoonful of the aconite, when I looked at the label and stopped him in time to prevent a tragedy.

In a cottage by the railroad, a venerable father in Vinton, with many descendants and a double hernia, called me early one evening to replace his prolapsed bowel. I had succeeded in reducing the hernia on several prior occasions, but this time it seemed I would not be able to relieve him. He was given a hypodermic of morphine and atropine, and an ice-bag applied over the swelling. Half an hour later, further efforts at reduction failed completely. By this time, excitement was running high among his numerous children, grandchildren, and great grandchildren, who stood with faces anxious and grave. The wife who had shared the old man's joys and sorrows for more than sixty years, wrung her hands in anguish and cried audibly, when told he must have his belly cut open or die. A surgeon was called; kettles on the cook stove in the kitchen, containing water to sterilize the instruments, sang a weird monotone.

When the surgeon arrived, I requested him to observe the critical condition of the patient, and the urgent need of the operation. He turned back the cover, placed his hand on the swelling, made gentle pressure, when lo, the thing growled ominously, as if angered and frightened by the surgeon's touch, and

sneaked back like a coward to rejoin its friends in the abdominal cavity.

A strange and startled look came over the patient's face. First, an expression of wonder, then one of joy and gratitude. He reached out his hand, gave the surgeon's back an affectionate pat, and said with emphasis, "You are the boy for me." Everybody in that room was smiling and happy, though I must confess I was somewhat embarrassed.

Many of the diseases affecting the people during the past half century have been modified, and some of them conquered.

Diphtheria was thought to be a local disease. We did not know that typhoid fever came from eating and drinking food and water laden with specific germs; and that puerperal fever was carried to patients by the unclean hands and instruments of physicians.

Almost every person who acquired tuberculosis, gradually grew weaker, wasted away and died.

There was no law made and enforced to vaccinate the people for smallpox, and outbreaks of the disease were common. The average doctor could not diagnose hook worms; and deaths from diphtheria among young people continued until the discovery of antitoxin. The treatment for lumbricoids and tapeworms used to pay us well, but now those parasites have nearly ceased their destructive work in this part of the world.

Health conditions were deplorable in cities, towns, and rural communities. No official boards of health had been organized. Finally, members of the Legislature were induced to appropriate the insignificant sum of $5,000 to be used yearly for health purposes over the entire State. Then it was that God raised up a man to go out and labor for the cause. He was Ennion Williams, who served for some years—until his untimely death—as State Health Commissioner.

In September, 1898, I was present when the State Medical Society met at Virginia Beach. Doctor E. C. Levy read a paper entitled, "Do Bacteria Cause Disease." He proved that they certainly do, but the scholarly men of advanced age did not believe it, and in loud language declared the ideas expressed by the young doctor could not be accepted as true. Think of it! And it happened late in the nineteenth century! At that time, the number of typhoid fever cases was legion. I, myself, was treating from forty to sixty cases every year. I traveled mostly by buggy and on horseback, in the towns of Vinton and Roanoke, over level land and mountains, through Bedford, Botetourt, Bonsack and Ballahack, was hot and thirsty, but drank no water from rural springs or wells, and though I treated probably more than five hundred cases, I was fortunate enough not to acquire the disease.

Few, if any of you, remember when an instrument called the "oxidonor" figured prominently in this community, some thirty-five years ago. It was made from a red cord, several feet long, a cuff with a buckle attached to one end, and a lump of shiny metal to the other. It was a real pretty thing. The patient buckled the cuff around his ankle and dropped the metal end into a vessel of ice water, went to bed, where he remained from one hour to several days. The cost of making the thing must have been not more than fifty cents, but I think it sold for $15.00, probably more. Testifying to its marvelous curative powers, published in a booklet, were Methodist stewards, Baptist deacons, lawyers, merchants, and poor folks. One man, whose son I treated for typhoid fever, sent his little piece to the booklet of testimonials, in which he stated that he treated himself with it for typhoid fever, and it cured him much quicker than the treatment the doctor gave his boy. After selling it for years, the law made an investigation; pronounced it a fake; and stopped its sale. What a pity that other fakes, so expensive and dangerous, continue to be used.

A good while ago the question of putting sewage plants in cities and towns began to be considered, and those towns using them were found to be almost free from typhoid fever and some other distressing and dangerous diseases.

A few of us felt that it would benefit the town of Vinton to have such a plant. A meeting was called, at which a bond issue for $50,000 for putting in a sewage system was discussed. All seemed to favor the project. At the second meeting several weeks later, several citizens opposed the project. Speeches were made for and against the measure. I saw in the faces of many of the assembly, a determination to turn the matter down, and, before putting the vote, urged them to act in its favor. "If you do not, this dangerous disease will stay with us, and kill some of you, and, knowing you as well as I do, I think I am telling the truth when I say, you will go to Hell!" They decided to hold the election, and the

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measure was adopted by a very small majority, and the plant installed. Now there has been no typhoid fever contracted in the town for many years.

Perhaps all of us have heard this remark, "The doctor gave him a hypodermic and it killed him."

Case 1.—An old man propped up in bed, in the last stage of consumption, gasping for breath, his lips and finger nails purple, said in a whisper, "Give me something to hurry me on." A harmless hypodermic was administered, which was explained to the son. He lived just a few hours.

Case 2.—Midnight death from consumption hovering over a young married man. His wife said, "Doctor, won't you please give him a dose like you gave Mr. Blank, and let him pass out quickly?"

My friend, J. Gibson Davis remembers when doctors spoke of *"laudable pus"*, sponges, products of dead animal material, used to control bleeding during operations. We heard them speak of *leeches, setons,* and other contrivances that are not employed in the healing art at this time. Some bled their typhoid and pneumonia patients; others applied cantharides plasters over distended tympanitic abdomens, and gave water in homeopathic doses.

Dentistry had not been taught in the College at Richmond. We came away taking our Medical diplomas with no more knowledge of the art of tooth extraction than the veriest clod hopper. I do not know how many teeth I broke off, leaving the roots to be pulled out by dentists.

Trained nurses had not appeared on the scene. Now they are a necessity and we just can't do without them. There is no doubt in my mind that they have helped us to save lives.

There are people who still believe health is endangered by inhaling *night air.*

One damp and dense foggy night, on the Virginia coast, a peculiar looking individual rode into the yard of the home of a doctor. He wanted the physician to visit his son, who, after shaking with a malarial chill, had become very hot; his temperature having risen to 106° F. The rider held over his head a commodious umbrella to protect himself from the damp atmosphere. His head and face were covered with a thick veil, through the meshes of which he thought the night air lost its harmful constituents; his hands and wrists were covered with gauntlets, and his neck enveloped in a wide bandage. Thus his entire external integument was protected from the entrance of the disease germs floating in the midnight miasmatic air. That comic Knight Errant did a wise thing, but he was not aware of it. He was armed against the stabbings of the vicious droves of anopheles mosquitoes that frequented the community, but he feared no danger of anything except the night air.

Householders had commenced to prevent the entrance of the night air into their abodes by plugging crevices and keyholes. They did not know that if a patient with tuberculosis had been lying in the stagnant, contaminated atmosphere, the other occupants of the apartment would become affected with that fearful, fatal malady. Believers in the evil effects of night air still dwell in the high lands, as well as those down in the coastal plains.

The delightful breezes of the mountains of Virginia, through twenty-four hours of every day, are not only soothing to tired and tense nerves, but have a marvelous curative value.

My second case of obstetrics may interest some of the older men who entered the profession before antiseptic measures were employed.

While young and with little experience in the management of obstetrical cases, I met at the midnight hour a young wife in the throes of puerperal convulsions; wrestled with the fierce attacks occurring at two hour intervals, till the coming of the morning light, when her baby girl was born. Then I hoped for improvement in her condition, but the seizures continued with even greater force. At the dawn of the second morning, after I had given what I had been taught was an unsafe drug, morphine, the paroxysms ceased, and the patient fell into a quiet sleep, from which she awoke five hours later. Much to my relief and joy, she was conscious, and she gradually regained her health.

During the War Between the States, a disease broke out among the Federal troops, operating in the vicinity of the swamp adjoining the Chickahominy river. It was thought to be a hybrid disease. Dr. Woodward, a surgeon attached to the Army of the North, is reported to have given it the name of typho-malarial fever. By this name it was known for many years.

At the meeting of the Medical Society of Virginia, held at Rockbridge Alum Springs, in 1896, the condition was discussed in a forceful manner by Dr. W. S. Gordon. He argued that the name under

which it had been known for nearly half a century was a misnomer; that the germs of two diseases working in the same body simultaneously, are not kindred spirits, but each is trying in its own way to damage and destroy the body of the unfortunate individual. Dr. Gordon closed his thesis with the remark: "It is thoroughly illogical to conclude that there is such a disease until the necessary conditions for its existence have been demonstrated." Doctors J. Allison Hodges, J. E. Warinner, W. L. Robinson, J. N. Upshur, and J. S. Wellford, in discussing the subject, favored the term "typho-malarial fever." Dr. Warinner stated that the disease was recognized in the swamps of the Chickahominy by physicians long before Dr. Woodward borrowed the term for which he received the credit of introducing into medical nomenclature. Soon after that meeting, the term "typho-malaria" ceased to appear.

Dr. Junius Ernest Warinner, mentioned above, and I were boys together. We visited each other at our respective homes, several miles apart, played in the fields and forests, swam and angled for cat fish, chubs, perch and pike, in the mill pond and streams. Our friendship continued through our growing periods. He graduated from the Medical College one year before I received my diploma, after which our visits became infrequent. He practiced in his home county of Henrico, and became a very efficient and beloved doctor. He filled the position as a member of the Medical Examining Board of Virginia for a number of years, and, in the meridian of a life of usefulness, passed away from earth to his God, whom he had faithfully served. His remains are sleeping in the cemetery of Emmanuel Episcopal Church at Brook Hill.

"Green be the turf above thee,
Friend of my youthful days,
None knew thee, but to love thee,
Nor named thee but to praise."

I would add a brief tribute to the memory of two other young physicians who figured prominently in the City of Richmond during the closing decade of the nineteenth Century.

Dr. Charles M. Shields, who, after graduating in 1883, was selected to lecture at the College on diseases of the eye, ear and throat, subjects that he had chosen as his specialty. Later, he was elected a member of the faculty and became adept in the art of imparting knowledge of that interesting study to the members of his classes. His untimely death brought sorrow to his large circle of friends.

Dr. Lewis Crenshaw Bosher, a native of Richmond, Virginia, born in 1860, received his academic education at Richmond College, and graduated from the Medical College of Virginia at the commencement in the spring of 1883. He was frequently called on to lecture in the absence of members of the faculty when they were unavoidably absent, and he substituted in a most efficient and satisfactory manner. Later he became professor of the chair of surgery, and, possessing a comprehensive knowledge of anatomy, was prepared to teach and practice surgery in a forceful manner. He was already attaining fame in the surgical field when called away to lie down and die. That fine, cultured, highly honored, generous, and benevolent Christian doctor, entered into eternal rest before he had attained to middle life.

One word more. To the younger members of the Alumni chapter: The magnificient and imposing structures erected on the campus during the recent decades you hail with enthusiasm; but to us who knew and loved the charming Egyptian building more than fifty years ago, threatened by fire, storms and "grim visaged war", we lift our hats in tender reverence. Its calm and impressive dignity, its classic architecture, the remembrances of its strong outlines, and its ivy covered walls, will always be to us "A thing of beauty and a joy forever".

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CIRCULATORY AND RESPIRATORY DISTURBANCES OF THE ERECT POSTURE.

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The decrease in arterial alveolar CO_2 tension on assuming the erect posture, has been attributed to several causes. In a recent thorough investigation of this phenomenon, Hitchcock and Ferguson[1] criticize the suggestion of Main[2] that this diminution of CO_2 tension is due to pulmonary over-ventilation with resulting alkalemia. These investigators[1] showed that, contrary to the usual statements in the literature, the total pulmonary ventilation of some subjects may be unchanged or actually diminished during the *early* part of standing. They apparently believe that this diminution, or absence of an increase, of pulmonary ventilation on standing, refutes the possibility of the lowered alveolar CO_2 being due to over-ventilation of the blood. They state that the low alveolar CO_2 level is maintained by an impairment of CO_2 transport from the dependent parts of the body, due to stagnation of blood. We cannot agree with this interpretation. The CO_2 tension of arterial blood is regulated by the respiratory center. If the volume of CO_2 in the blood returning to the lungs is diminished, as by retention of blood in the legs, the respiratory center will be stimulated less, and pulmonary ventilation will be decreased until just sufficient to maintain the normal CO_2 tension to the center. Apparently, in the early part of standing even a diminished pulmonary ventilation may be adequate to over-ventilate the diminished circulating blood volume. That over-ventilation must exist, we consider proven by the fact that the arterial alveolar CO_2 tension, and therefore the arterial CO_2 tension, is diminished, in the absence of an acidemia.

An argument against the explanation of impaired CO_2 transport lowering alveolar CO_2, is that in a person standing, bent over at the waist at right angles, the alveolar CO_2 rises to the lying value.[2] However, undoubtedly there is still stagnation of the blood in the legs with impaired CO_2 transport.

The cause of this over-ventilation of the diminished circulating blood through the lungs therefore still remains unsolved. Turner[3] suggested that the lowered CO_2 tension is due to cerebral ischemia. Proof that a relative ischemia of the brain on standing occurs is indicated by the diminished jugular return and its lower O_2 saturation.[4] Main[5] suggested, however, that over-ventilation might occur because of the fact that the pressure in the carotid sinus is diminished by about 20 mm. Hg. on standing.[4] This drop in blood pressure in that area should cause a stimulation of respiration. Consequently, we decided to put this hypothesis to the test by raising the blood pressure of a standing subject, by the administration of vasopressor drugs. The resulting increase in carotid sinus pressure should therefore remove this postulated stimulus to respiration, allowing the CO_2 tension to return to the normal lying value.

We therefore used epinephrine and amphetamine sulfate subcutaneously, to raise the blood pressure of standing subjects about 20 mm. Hg. This should then remove this postulated respiratory stimulus by increasing the pressure in the carotid sinus to normal. However, as will be reported in detail elsewhere,* these drugs, in the doses used, had no effect on the alveolar CO_2 tension in either the lying or standing position. Consequently, it would appear that the cause of the over-ventilation of standing is not due to the diminished pressure in the carotid sinus, but may be due to a relative cerebral ischemia.

The criticism by Hitchcock and Ferguson[1] of the suggestion that proprioceptive stimulation might also play some part in explaining the drop in CO_2 on standing,[2] we consider well based, for, following injection of epinephrine, marked coarse tremors often occur in the arms and legs of the subject. This would be expected to increase proprioceptive stimulation if such existed. However, no correlation of alveolar CO_2 with the tremors was found.

The suggestion of Hitchcock and Ferguson[1] that the increase in functional residual air of the lungs

*Main, R.: Proc. Soc. Exp. Biol. Med., 45: 776, 1940.

on standing may be concerned with the immediate drop in CO_2, to us seems of negligible importance. In fact, they admit that this effect would be only temporary. If the alveolar CO_2 be thereby suddenly diluted by the addition of a few hundred cc. of air, this over-ventilated blood passing to the respiratory center would immediately slow respiration until equilibrium once more occurred. Again, the increase in residual air in emphysema increases rather than decreases alveolar CO_2 tension.

By a logical chain of reasoning, Hitchcock and Ferguson[1] suggest that there must be an increase in the circulatory velocity of the blood of the arms and thorax on standing. If the velocity is increased, this may explain the increased pH of the venous blood of the arms on standing,[2] which was attributed to the diminished CO_2 tension of the arterial blood. In order to investigate this point, it was necessary to determine the pH of arterial blood in both supine and erect postures. We soon found that a radial artery puncture when standing was difficult and that subjects readily fainted during a femoral arterial puncture in the erect position, even though procaine had been infiltrated and they claimed to feel no pain. Because of the marked circulatory disturbances produced even by an incipient vaso-vagal syndrome, we abandoned this method in favor of arterializing the venous blood of the antecubital vein by immersing the subject's arm up to the elbow in water of 45° to 47° C. The pH was determined with a glass electrode, care being taken to prevent loss of gases. The skin was always infiltrated with procaine without epinephrine. The femoral artery was first tapped with the subject lying in order to compare its pH value with the arterialized venous blood of the arm. The slightly greater alkalemia of the arterialized blood was probably due to the respiratory stimulation produced by the effect of the hot water. The arm was immersed in hot water for three minutes before a venous sample was taken, and kept there during withdrawal of the blood. Any effect upon respiration or circulation should be constant in both lying and erect positions. A few minutes later, the subject stood for five minutes, and again immersed his arm in hot water for three minutes before taking the final sample from the arm vein. As Table 1 indicates, there is a tendency towards alkalemia in the arterialized venous blood of the arm, on standing. This apparently indicates that on standing an arterial alkalemia does exist, and that the venous alkalemia in the arms on standing previously reported[2] is due, at least in part, to this arterial alkalemia.

TABLE 1

	pH—LYING		pH—STANDING	pH—DIFFERENCE
Subject	Femoral artery	Arterialized venous (arm)	Arterialized venous (arm)	
Ki	7.42	7.44	7.45	+ .01
Co	7.42	7.43	7.46	+ .03
Cr	---	7.53	7.56	+ .03
Od	7.54	7.56	7.57	+ .01
Jo	7.58	7.59	7.61	+ .02

We do not consider that the postulated increased circulatory velocity in the arms and thorax on standing[1] could affect arterial CO_2 tension unless there is also improvement of the circulation to the head. However, in order to test this suggestion, the circulation time of several subjects was determined with 20 per cent calcium glucono-galacto-gluconate (Sandoz) between the antecubital vein and the throat, standing and lying. Since 5 cc. of this solution must be injected, and because the end point is subjective, we do not consider that a difference of one or even two seconds is significant. A preliminary report on this has been published.[6] The subjects always lie down one-half an hour beforehand, and were stripped to the waist to avoid venous compression. When standing, the vein was injected with the arm hanging at the side. Procaine without epinephrine was infiltrated to prevent pain. Table 2 indicates that the circulatory rate from arm vein to throat is, on the average, the same when lying or standing.

TABLE 2

Time in seconds.

Subject	Lying	Standing 5 min.	Standing 30 min.	Lying after standing 5 min.
1) K_1	24	20		
2) K_2	15	17		17
3) K_3	14	12		14½
4) O	14	12		
5) A	11½	11		
6) M_1	17	16		
7) M_2	18½	13		16½
8) C	12	10		
9) F_1	10	14	15	
10) F_2	15	14	13½	
11) S	12½	15		
Average	14.8 sec.	14.0 sec.		

Bock et al.[7] found that, in a few subjects, the venous circulation time from the arm to face, standing and lying, was either the same or slightly faster

standing. However, Sweeney and Mayerson,[8] have shown that re-circulation to the lungs occurs sooner when standing. This would indicate that the circulation in the upper body is faster. Since the arm veins are noticeably engorged when standing, and the velocity is the same as lying, therefore, the venous return to the heart from the arms and thorax (but not the brain) should be greater standing than when lying. Since the venous return from the arm thus appears increased, one may assume that the arm arteries may not contract, as do the arteries of the lower body, and perhaps may dilate as the cephalic arteries are assumed to do.[5]

Although the temperature of the skin and subcutaneous tissue of the hand falls on standing, indicating peripheral vasoconstriction,[9] this would not necessarily indicate that vasoconstriction also occured in the deeper vessels. However, Oliver claims that the diameter of the radial artery diminishes on standing,[10] so that the problem of the circulation in the arm in the erect posture is unsolved.

SUMMARY

Upon correlating the results and assumptions of various investigators, we may tentatively assume that the following pertinent changes occur upon standing:

1. Blood accumulates in the veins of the lower part of the body, with resulting drop of blood pressure in the carotid sinus, compensatory cephalic vasodilation, and relative cephalic ischemia.

2. Arterial vasoconstriction and stagnation of the venous blood occur in the lower body, with resulting increased CO_2 content, diminished O_2, and diminished pH of the venous blood in this area, and diminished circulating volume of the blood.

3. Less CO_2 excretion per minute and diminished O_2 absorption due to venous stagnation may occur in some subjects in the *early* part of standing, in spite of the increased CO_2 production and O_2 utilization by muscles. This will result in a temporarily decreased pulmonary ventilation.

4. In spite of the decreased pulmonary ventilation, the diminished circulating blood volume is being over-ventilated, probably due to cephalic ischemia. This results in a lowered arterial CO_2 tension and tendency toward an arterial alkalemia, so that the respiratory center may be supplied with normal blood, in spite of the relative cephalic ischemia. This arterial alkalemia should also help neutralize the CO_2 acidemia in the leg veins. This arterial alkalemia is reflected in the venous alkalemia of the arms.

5. There is possibly an increased blood flow through the thorax, suggesting arterial vasodilation, and diminished blood flow through the legs and brain. The effect in the arms is disputed.

6. The velocity of the venous circulation from the arm to the throat is apparently unchanged, although the total flow may possibly be greater.

CONCLUSION

The drop in arterial alveolar CO_2 tension upon standing is due to over-ventilation of the diminished circulating blood volume, probably caused by cephalic ischemia affecting the respiratory center. This results in a tendency toward an arterial alkalemia. This respiratory stimulation may not be due to a fall in pressure within the carotid sinuses, since increasing the blood pressure with vasopressor drugs has no distinct effect upon the CO_2 tension. The arm to throat venous circulation rate is not appreciably altered on standing.

We are indebted to Doctor William B. Porter for his suggestions, to Sandoz Chemical Works for supplying us with Neo-Calglucon, and to Smith, Kline and French for the Benzedrine.

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INTUSSUSCEPTION COMPLICATING TUBERCULOUS ENTERITIS.

Report of A Case.

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Many reports indicate that the most common cause of intussusception in adults is polyposis of the intestine or some similar condition. The literature records only a few cases of intussusception occurring during the course of tuberculosis of the intestine. Eliot and Corscaden,[1] who collected 300 cases of intussusception in adults, give reference to ten cases associated with tuberculosis of the intestine, but in some cases the diagnosis of tuberculosis was doubtful. In a case reported by Easton[2] the intussusception was not located at the site of the tuberculous lesion. The following case recently came under our observation.

REPORT OF A CASE

CLINICAL SUMMARY: A white man, aged thirty-four years, was admitted to Jefferson Hospital, Roanoke, Virginia, on September 26, 1940, complaining of generalized abdominal pain, abdominal distention, obstipation, nausea, and vomiting for four days. He had been known to have pulmonary tuberculosis for four years. On physical examination he was greatly emaciated. The temperature was 99°F. The abdomen was greatly distended and was tympanitic. Generalized abdominal tenderness was present. Palpation for masses was unsatisfactory because of distention. The leucocytes numbered 8,700 with 64 per cent neutrophiles. A diagnosis of tuberculous peritonitis with intestinal obstruction was made.

After preparing the patient with intravenous fluids and chlorides, and duodenal drainage, an exploratory laparotomy was performed under ethylene anesthesia. He was found to have tuberculous enteritis with early peritonitis, and an intussusception involving the ileum about 2 metres above the ileo-cecal valve. An attempt to reduce this was not successful because of the friability of the bowel. Therefore, the involved portion was resected and an end-to-end anastomosis was done. The patient died quietly about twenty-four hours later and no autopsy was obtained.

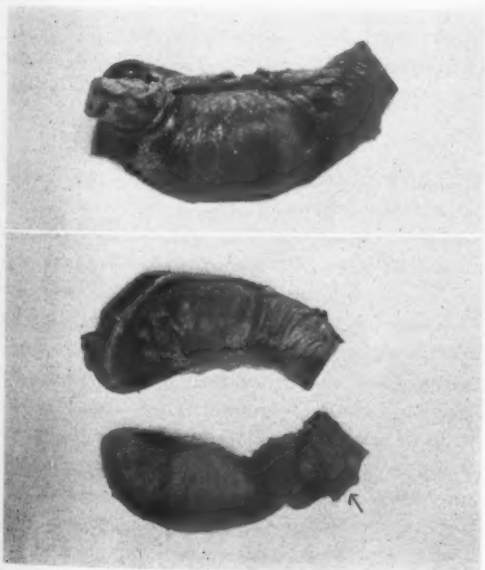

Fig. 1.—External and internal views of the intussusception. Arrow indicates one of the tuberculous ulcers.

Fig. 2.—Photomicrograph of tubercle in floor of one of the ulcers.

PATHOLOGIC SUMMARY: The specimen (Fig. 1) consisted of a segment of ileum which, without reducing the intussusception, measured 14.0 cm. in length. The intussusception caused a firm mass

measuring 8.0 cm. in length and 3.5 to 4.0 cm. in diameter. On section, three tuberculous ulcers producing intestinal strictures were found. One was near the apex of the intussusceptum, one was in the proximal portion of the intussuscipiens, and one was

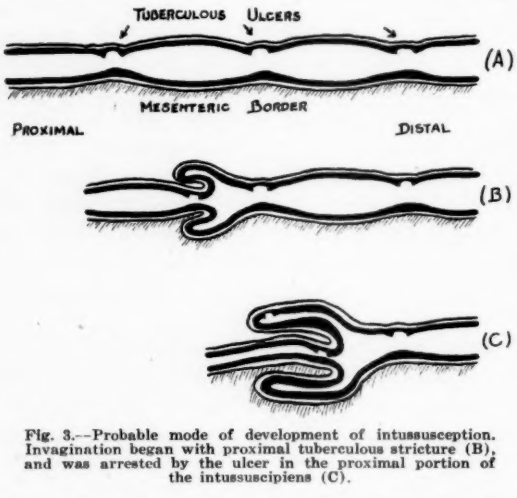

Fig. 3.--Probable mode of development of intussusception. Invagination began with proximal tuberculous stricture (B), and was arrested by the ulcer in the proximal portion of the intussuscipiens (C).

below the intussusception as indicated in the diagram (Fig. 3C). Each ulcer measured about 20 x 10 mm. and the serosa overlying them showed tuberculous peritonitis. The mucosa of the intussusceptum showed hemorrhagic infarction. Early necrosis was seen in the distal portion of the intussuscipiens. Histologic sections confirmed the tuberculous character of the ulcers (Fig. 2).

COMMENT

It seems probable that the intussusception began when a stricture produced by a tuberculous ulcer of the ileum slipped into the next portion of the bowel. This stricture remained at the apex of the intussusceptum as the latter advanced, slipping past the second ulcer which was associated with less intestinal constriction than the first (Fig. 3). When the process advanced to the point where the second ulcer occupied a proximal position in the intussuscipiens, intussusception stopped because of the resistance offered by the second ulcer.

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ACUTE EPIPHARYNGITIS.

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The epipharynx represents a rather inaccessible anatomical space frequently overlooked on routine examination. An entity often undiagnosed by the general practitioner and ofttimes by the otolaryngologist is an acute inflammation confined to the mucous membrane of the epipharynx. Superficial examination of the nasal cavities and the oropharynx may reveal no evidence of the extent of pathological changes behind the soft palate. The diagnosis will remain obscure unless the symptomatology or routine posterior rhinoscopy leads to the site of infection.

The current literature contains many references to tumors, cysts, abscesses and bursae of the nasopharynx, but little reference is made of acute primary infection of the mucous membrane of the post-nasal space. Textbooks contain meager mention of this entity, and state that in its milder forms acute inflammation may be confined to the epipharynx. Recently Carmody[1] and Hill[2] have stressed the problems of diagnosis in the epipharynx; no consideration is given to this subject.

Acute epipharyngitis may result from, precede, or exist simultaneously with infection in the oropharynx or in the nose. More important, it may occur as an inflammation solely of the postnasal space, extending but little to adjoining regions. The first symptom is burning and soreness above the palate. This is soon followed by extension into the nose or down into the pharynx where the major signs and symptoms of a typical cold may manifest itself. If the infection is confined to the epipharynx the patient will complain of a sense of fullness in the region of the palate, a mild to a marked obstruction to nasal breathing, and, particularly, pain and soreness in the sternocleidomastoid muscle on each side. A characteristic impediment of speech similar to enlarged adenoids is noted. There is some difficulty in swallowing but not a pronounced sore throat. The neck may feel

stiff and an occipital headache is often present. Frequently the only complaint is pain and discomfort in the back of the nose.

Depending upon the severity of the infection, constitutional symptoms—headache, fever, and general malaise—may be absent, mild or considerable. The diagnosis is difficult in children, and is, no doubt, generally overlooked. It is often stated that acute epipharyngitis constitutes a common obscure cause of fever in childhood. In adults the diagnosis is confirmed by posterior rhinoscopy or examination with the nasopharyngoscope. The edematous, swollen mucous membrane is covered with a gray white exudate. The acute inflammation may be confined to the remains of the pharyngeal tonsil and constitute an acute adenoiditis. The lateral bands or folds running down from the torus of the eustachian tubes are acutely inflamed and studded with white spots of a follicular inflammation. The exudate may be somewhat adherent and swabbing results in slight bleeding. Examination of the nose, sinuses and pharynx will often show but slight upper respiratory infection. On anterior rhinoscopy, after thorough shrinking of the nasal mucous membrane, the mucopus covering the posterior pharyngeal wall or adenoid tissue can be seen.

The bacteriological examination is variable and shows nothing more than the usual mixed nasopharyngeal flora. Streptococci of various types predominate with a mixture of staphylococci, micrococci catarrhalis, pneumococci and influenza bacillus. It is said that a pure culture of the offending organism can be obtained in 46 per cent of instances. Indeed, in ordinary pharyngeal cultures the predominating organism can be obtained more frequently from the epipharynx than from the pharynx.

For some time after the acute inflammation has subsided the obstruction to breathing may continue, due to the hypertrophied adenoids. Frequently an adenoidectomy is later necessary.

In my experience ear manifestations in adults have been surprisingly infrequent, although in several instances the presenting complaint was deafness and symptoms of eustachian tube blockage. Acute middle ear abscess is an uncommon complication in primary epipharyngitis. In children, due to the anatomical conditions favoring tubal extension and the presence of an acute adenoiditis, middle ear infection is commonly found.

The difficulty in examination, and the difficulty in the medical and surgical treatment of nasopharyngeal disease is due to failure of adequate visualization of the post-nasal space. The pharyngeal speculum, palate retractor, post-nasal mirror, and nasopharyngoscope all lack complete exposure. Richards has suggested a distal light on a pharyngeal speculum. I have used a Curvlite retractor and have suggested to the manufacturer the construction of an appropriately curved tubular or flat speculum made of the newer plastics which transmit light around corners.

Failure in diagnosis and inadequate treatment results, in many cases, in chronic nasopharyngitis. More frequently than observation will allow, we attribute the cause of the chronic pharyngitis to the irritation of discharge from the paranasal sinuses. Hyperplasia of the lymphoid tissue and chronic inflammatory changes in the pharyngeal mucous membrane may be primary and not always secondary to ethmoiditis. Recently an observer[3] has emphasized chronic and subacute nasopharyngitis as the cause of obscure fever with malaise, loss of weight, and muscle aches, and as an important etiological factor in cases of vertigo and tinnitus.

Post-nasal discharge is the presenting complaint in many patients in rhinological practice. This symptom may be a physiological hypersecretion with nocturnal stagnation, a product of modern living conditions, which places a tremendous load on the nasal mucous membrane. The chief causes of post-nasal drip are hypertrophic rhinitis, paranasal sinusitis, and chronic nasopharyngitis. Not infrequently Thornwald's disease or nasopharyngeal bursae may present similar symptoms and signs and should be carefully differentiated.

The treatment of the acute phase is chiefly the local applications of silver nitrate, mercurochrome, gentian violet and similar antiseptics. Chemotherapy is of service if the offending organism is identified as suitable for this type of therapy. The disease is self-limited and complications infrequent. Applications of heat to the back of the neck and pharynx and analgesics and antipyretics for the constitutional symptoms are routinely ordered.

The treatment of chronic nasopharyngitis is somewhat more difficult. The use of alkaline antiseptic sprays, autogenous vaccines and filtrates applied locally, the use of iodides in various forms, electrocautery and radiation therapy for the lymphoid hyperplasia, avoidance of tobacco, alcohol or smoke,

and the local application of silver nitrate have been advised.

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IS ROUTINE CIRCUMCISION OF MALE CHILDREN AT BIRTH JUSTIFIABLE?

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There seems to be an increasing tendency for those practitioners doing obstetrics to circumcise all newborn males. Indeed, not a few obstetricians are performing this operation on the male child as soon as the delivery is over. An estimate, which Jacobs claims to be conservative, places the number of circumcised individuals in the world today at over 200,000,000. An operation which is this prevalent can very easily become an accepted routine procedure without a full realization of the conditions and indications demanding surgery.

This study has its inception while listening to a discussion as to whether or not there was any material benefit from the routine circumcision of the newborn male child. Such discussions are rather frequent, Boulware telling me of one in Birmingham recently; and at a pediatric meeting in Chicago not long ago the question was brought up for a round table conference.

Circumcision was evidently practiced long before the first recorded instance described in Genesis when the covenant between Jehovah and Abraham was solemnized by the cutting of the foreskin. Numerous investigators have read into this ceremony something besides a mere ritual and have extolled the wisdom of Jewry for the formulating of such a prophylactic policy. But, as Newman energetically asserts, I cannot see in the Jewish custom anything but a religious rite. I have reason to believe it dates from the stone age.

Jacobs would have us think that the practice of circumcision originated in Chaldea and from there going to Phœnecia. The Phœnecians are supposed to have spread it over the world. It seems to me unreasonable that even the thalassic kingdoms of Phœnecia could have been responsible for the widespread custom—it has been found in the remote regions of South America, Africa, Australia, New Guinea, and in the isolated islands of the Pacific. The Indians of remote North America had the same rite. Even the entrepot that was Egypt in the time of Rameses II could not have distributed the practice as world wide as it was and is now. It must have been another one of the primitive expressions of all primitive men, such as the nose boring of the Aborigines in the Dutch East Indies for example.

Why circumcision? What is the significance? Some have said for hygienic reasons. Numerous people, though, practice the operation who have not the foggiest idea of cleanliness, hygiene or prophylaxis. Why their tribes have not died out seems to be mystery. The theory of a special prophylactic custom is untenable.

There is evidence that the rite is a tribal custom or ceremonial—Jewry. Or it may have been a badge of honor, as in the Egyptian state in its glory. The Israelite religion would seem to refute this, although in many tribes the occasion of circumcision is made into a feast day. As Jacobs remarks, since the sexual organs in many cases are hidden, why should much prominence to given to the penis.

Or it may have been an initiation to manhood. Why? Some aboriginal tribes do circumcise at puberty and many look on this as a primitive rite performed because of the instinctive hope of fertility. Malinowski, however, has shown us that the primitive man knows nothing of the cause of pregnancy. Copulation is not connected with the enceinte female at all, the condition being thought to be merely a visitation of a departed spirit. And if this visitation is the hope, why should cutting of the foreskin be practiced on the child in the newborn days as it frequently is. The children growing up indulge in sexual play by the time they see a difference between male and female, knowing nothing of the potential

aftermaths of such play. After they are of age a mate is selected and pregnancy is a mere happening.

Ferrer thinks the operation had its origin in religion,—"The phallus is a divine organ, so what would be more alluring to the gods than to offer in honor of their enlightened spirits a portion of the penis". This thought, though, would be repugnant to the Jews.

Hunger and sex are possibly the main thoughts of primitive races. Most of their ceremonials have a sexual background—if the occasion is not war; and even if it is, then sexual orgies follow. Even in this "civilized" time Nanking is an example. The penis to these primitive people is not a means of propagation (Malinowski) but a means of sexual gratification. Such a pleasurable organ should be decorated. Miller tells us how the pygmies affix their atrocious and laughable penis sheaths to accentuate and display the male organ. Others decorate the penis and pubis with shells. The tattooing of both male and female sexual regions is a common occurrence. We can easily believe that the wearing of the celebrated fig leaf was just a means of drawing attention to the orgiastic tendencies and thoughts of the wearer. In the days when "knighthood was in flower" cod bags were very much in evidence. I advance the theory that circumcision was another adulation of sex.

It occurred to the author that perhaps the opinions of a representative number of urologists and pediatrists might give one an insight as to the value of the operation when it is performed routinely. Of the letters written (not questionnaires) approximately 75 per cent were answered. Because of the frequent intrusions on the time of outstanding men I was gratified at the interest shown.

Forty-three urologists replied. Of these, twenty-six favored routine circumcision of the newborn male; seventeen did not advise it. The differences of opinion were most interesting. For instance, Young believes that, "If there are no contraindications"—"All newborn males should be circumcised", whilst Herbst is, "Very definitely against routine circumcision".

Twenty-six pediatricians replied. Of these seven favored circumcision as a routine measure; nineteen did not. Helmholz advises it "For all male children", while Sprague thinks that such a procedure is "A useless and sometimes disastrous mutilation of a tissue that has a definite and protective function".

Upchurch tells me that the vast majority of his patients with gonorrhea and penile syphilis need circumcision and "It is a rarity in my practice that a person who has been circumcised has either one of these diseases." That seems to be the outstanding argument of those favoring the operation. Kahl seems to think a foreskin even predisposes to venereal diseases; so does Folsum. Hinman thinks the chances of infection are diminished after circumcision.

It is rather hard to refute those arguments. Herbst, however, sees "A very definite number of children who get meatitis because of the fact that the meatus is not protected by the prepuce in the diaper period, and results in definite inflammation, infection, bleeding, and sometimes stenosis".

Dean writes that "Since I have been compelled to amputate approximately 200 penises for cancer, and since the only cause in each case was chronic irritation beneath a tight prepuce you may well imagine that I strongly recommend routine circumcision within a week of birth." That is the opinion of almost every urologist. A notable exception is Ferrer who had "A record of 278 cases, and to be frank with you, sir, I cannot blame carcinomatosis to phimosis because none of the cases that I have seen had a history of phimosis". In the literature there has been only one case of a Jew having carcinoma of the penis. It is also almost unknown among the Mohammedans but they are circumcised just before marriage.

It is then stated that "The circumcised child will be less likely to indulge in masturbation", and that there will be "More general gratification of the partner in sexual relations". Two of "The thousands of reasons" that Nakin "Could cite" in favor of routine circumcision are these. Bolend also thinks the circumcised male, "Will make a more desirable mate", and Irwin thinks impotence is more prevalent in the uncircumcised. Hinman says, "There is less chance of wrong habits of sex."

It is interesting that Grant thinks, "Unquestionably the properly developed prepuce adds to the satisfaction of intercourse."

The seven pediatricians advocating routine circumcision give as their reasons the same answers as do the urologists. Gengenbach thinks lack of circumcision "Could be a factor in their nervous instability". Loeber states that "I believe circumcision eliminates allergic rashes from reflex irritation."

Those pediatricians opposed, cite the possibilities of untoward results, Brown mentioning "Gangrene of the penis, several cases of pyelitis; general furunculosis; cicatricial constriction around the corona and innumerable meatal ulcers". Gonce also has seen many meatal ulcers which have given trouble. Those are never seen in the uncircumcised. Amick has had to transfuse quite a few bleeders for an obstetrician who routinely circumcised males at birth.

Mitchell doubts that early circumcision lessens the incidence of masturbation. Faber emphatically states, "I do not know of any sound medical reason for the routine circumcision of all newborn males."

The operation is sometimes advised for the treatment of enuresis. Hillis sees no advantage in this. He also denies that masturbation can be avoided by circumcision. All boys masturbate at sometime; if this habit continues after puberty there is likely some nervous instability.

"Unfortunately many obstetricians and the practitioners rate the surgical risk of circumcision and manicure about equal." Campbell says this in no uncertain terms and, like Vallett, has observed, "Several unfortunate occurrences following these routine circumcisions on the autopsy table". Hinman and many other urologists think the "average job" is not properly done.

The time of operation as fixed by the Jews must have been learned through painful experience. To circumcise an infant as soon as it is born is taking an unjustifiable chance. How is one to know if there is an hemorrhagic tendency or not? Amick calls attention to this. There are changes in the fetal blood picture the first few days of birth that should be considered. To submit a child to an operation without taking into consideration the dangers of hemorrhage would seem to be sheer negligence.

What is so often overlooked or not sufficiently recognized is that the internal preputial membrane almost always adheres to the glans. It is a physiological condition. The adhesions usually disappear spontaneously within the first year or at the latest the seventh year. There must be some physiological purpose for this and as long as there is no harm to the babe it would seem the better wisdom to leave the prepuce there.

As to the argument that since it may be better to circumcise the infant in the neonatal period rather than face the possibility of it being necessary later on, Caulk and Patton would rather wait. They mention the possibility of stunting the growth of the penis if too much tissue is removed. Also, the newborn period is a period of adjustment and, as Brown says, "If done in the newborn period routinely to avoid later difficulty why overlook the tonsils and appendix."

After digesting the 69 letters written and numerous articles in the literature and after discussing the problem with my friends I am right back at the beginning.

"There are," as Ravenal said, "too many ifs and ands." My present procedure is as follows:

When the newborn male is born, after the cord is cut and clamped and the mother has been pronounced all right, with a mosquito forceps the preputial opening is stretched. I have seen no scarring resulting from this procedure. If the family asks about circumcision, it is not recommended, neither is it absolutely condemned. The so-called advantages are pointed out, also the disadvantages, and, further, the dangers are enumerated. If there is unreasonable insistence that the operation be done I do it on the seventh or eighth day.

It seems to me that the main part in the solving of the problem is the education of the mother. Cleanliness must be enforced. She must be taught to gently retract the prepuce, not necessarily the whole way at once, but a little more as the child grows older. Most of the cases of painful micturition are not because of the need of circumcision but from the lack of cleanliness and an ammoniacal diaper. It is the pediatrician who is responsible for the teaching of the mother.

Perhaps no conclusions can be reached from this discussion, but I hope it will make us think about it more before advising a mother to have her newborn boy circumcised.

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REPORT OF A CASE OF HEMORRHAGE FROM A MECKEL'S DIVERTICULUM.

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Gross intestinal bleeding is always a matter of grave concern to both the patient and physician. Tarry stools, even though copious, may not alarm the patient or his friends. The passage of blood, recognized as such by the layman, is very apt, on the other hand, to bring the patient to the physician for an explanation and advice as to the proper steps to be taken. Usually some one of the common causes of intestinal bleeding can be diagnosed and treatment recommended. Occasionally, however, the case may present a very serious diagnostic problem. The object of this report is to call attention to one of the less common causes of hemorrhage, one that is seen usually in children or adolescents, but one that occurs with sufficient frequency to make it wise to have it always in mind. It is also desired to place another case of bleeding from an ulcerated Meckel's diverticulum on record.

The writer has not made an exhaustive review of the literature on Meckel's diverticulum. It is noteworthy, however, that while the older literature deals with questions of occurrence, inflammation of, intestinal obstruction due to, and kindred subjects, the only references to hemorrhage from a diverticulum that have been found have been in the literature of the last ten or twelve years. None of the older textbooks, as far as reviewed, refers to the diverticulum as a cause of hemorrhage. The latest editions of Christopher's Surgery and of Cecil's Medicine do mention the fact and a number of articles have been found in the journals of the past ten years referring to the matter. Cobb[1] gives Denecke the credit for first having discovered an ulcer in a Meckel's diverticulum in 1902, and further states that Deetz in 1907 described the presence of gastric mucosa in these structures, stressing the fact that these ulcerations were similar in character to the common peptic ulcer of the stomach and duodenum. He thus laid the ground work for a recognition of bleeding from one of these ulcers as a possible cause of intestinal hemorrhage. Corriden[2] in reporting a case makes the statement that intestinal hemorrhage between the ages of five and fifteen is a rare condition and that an ulcer of a Meckel's diverticulum should always be suspected.

The incidence of Meckel's diverticulum is variously given at 1 to 2 per cent. With regard to the incidence of aberrant tissue, Johnson and Renner[3] quote Sheetz as stating that in a study of thirty-seven specimens of Meckel's diverticulum he found 16.6 per cent to contain gastric mucosa, 10 per cent duodenal or jejunal mucosa, 2.5 per cent pancreatic tissue, and 5.4 per cent both pancreatic tissue and gastric mucosa. In other words, approximately 33.3 per cent of all cases of Meckel's diverticulum may be expected, according to these figures, to have some form of aberrant tissue. Renner[4] collected and reported seventy-eight cases. Of these, forty-eight, or 61 per cent, showed ulcer. Talley[5] quotes Heiner as having reported fifty-one cases (presumably collected), 66 per cent of which showed ulceration. These figures give one some conception of the relative importance of considering an ulcer of a Meckel's diverticulum as a possible source of any intestinal hemorrhage. Considering the incidence of Meckel's diverticulum to be 1 per cent and that, of these, one-third may be expected to have aberrant tissue within the diverticulum, and, further, that two-thirds of this number will have an ulcer, one would see that out of every five or six hundred children there would be at least one chance for hemorrhage as a result of an ulcerated Meckel's diverticulum.

In reading the cases reported one is struck with the similarity of the symptoms and findings. The condition is usually found in a young child, the oldest case found recorded by the writer being an adult of twenty-nine. In the younger children, the child may be found in collapse with a blood soaked diaper and apparently with abdominal pain. Those a little older usually complain of abdominal pain and later go into collapse, accompanied or followed by bloody stools. Some of the older ones give a history of attacks of colic earlier in life but without the history of the bloody stools being recorded at that time. Such phrases as, "large amounts of blood by rectum", "copious bloody stools", etc., are used. The location of the pain, where given, is usually placed

at or near the umbilicus. The report of the adult, who was a college student, twenty-nine years old, mentioned attacks of nausea and "dull, gnawing pain" in the central portion of the abdomen, usually coming on after the mid-day meal. The pain did not radiate. Still another case had "intermittent pain in the lower abdomen". A seventeen-year-old male had had pain for three years, gradually becoming more severe. The attacks were frequent and the pain knife-like. The pain occurred in the region of the umbilicus, usually to the left, was most apt to appear about three-quarters of an hour after meals. Speculation on the question of the time of onset after food, as brought out in this case, leads to a possible explanation for the frequency with which those diverticula containing aberrant tissue tend to ulcerate. It has been noted that the gastric tissue in the diverticulum begins to secrete acid synchronously with the stomach. The writer recalls one article, the reference to which, however, is not at hand, where a diverticulum had remained attached to the umbilicus and presented a mucous fistula which was noted to secrete acid with the taking of food. In the case of the free diverticulum this acid is poured out and comes into contact with intestinal mucosa unprotected by the alkaline mixture of food and digestive juices which, at the time, has not yet reached the level of the diverticulum. Thus, a condition analogous to the marginal ulcer of gastro-enterostomy, where acid gastric contents come into contact with mucosa normally adapted to an alkaline medium, is produced.

The following history represents a fairly typical case, as compared with others reported, of this condition in an adolescent.

This patient, H. McN., was referred January 3, 1939, because of a series of massive intestinal hemorrhages. The latest had occurred about three weeks prior to the case being referred.

Patient was eighteen years old and gave a past history of having had a series of massive intestinal hemorrhages at the age of thirteen. At that time he spent five weeks in a large teaching hospital, but was discharged without a definite diagnosis. He was free from bleeding at the time of discharge and remained free for two years.

He then had another hemorrhage, and a year later another, that is, about two years prior to admission. There was no more bleeding until about two months prior to admission when he had a series of very severe hemorrhages. These recurred, as stated above, about three weeks prior to admission. Patient stated that he had some prodromal symptoms and a dull pain, which he referred to the region about the umbilicus, sometimes to the right and sometimes to the left, more often he thought to the left side. Patient gave no clear history of indigestion and no history of eructation. He is not constipated and when he has had purgative medicine he has not done well.

Patient has had the usual diseases of childhood, but no history of any other serious illness.

In the family history one was unable to elicit any history of cancer.

On examination at the time of admission he was found to be very anemic. He was quite sick looking. Lungs showed vesicular breathing and were resonant throughout.

Heart dullness extended in the third interspace out to the mid-clavicular line. There was a soft systolic murmur.

No lymphadenitis was made out.

Thyroid was not enlarged.

Liver dullness extended from the fourth rib to the costal margin.

The abdomen was symmetrical, free from muscle resistance, masses, or tenderness. Spleen was not palpable. There were no purpuric spots.

Red blood count was 2,250,000. White blood count was 8,150.

Hemoglobin was 40 per cent. Sedimentation rate was 5 mm.

Polymorphonuclears 75 per cent. Mononuclears 25 per cent.

Coagulation time was four minutes.

Urine was negative.

Feces contained blood but no mucus.

Patient was observed in the hospital for about two weeks prior to operation. He was transfused. There was no evidence of obstruction, thus ruling out an intussusception. He was found to have an achlorhydria. By X-ray he was found to have hypomotility of the gastro-intestinal tract, and there was a spastic colon. The radiologist, using a barium enema, stated that at the hepatic flexure there was some irregularity, with slow filling and with suspicion of a defect. The cecum filled but there was no spilling. There was no evidence of polypi in the colon, though in the sigmoid one could not be dogmatic, as it was impos-

sible properly to visualize either with the X-ray or with the sigmoidoscope the whole of this organ. Examination by proctoscope revealed normal appearing mucous membrane as high as one could see.

In summarizing the possible causes for the hemorrhage one felt that the usual causes, peptic ulcer, varicosities due to enlargement of the spleen, colitis, polypi of the colon, and hemorrhagic diseases, were ruled out by the various tests above mentioned. Hence, the patient was explored with a provisional diagnosis of hemorrhage due to an ulcer of a Meckel's diverticulum. Patient was operated upon on January 20, 1939, with the following findings:

The abdomen was opened through a left paramedian incision, centering about the umbilicus. The colon presented and appeared to be normal. Coils of small intestine appeared normal. Hand was then passed to the lower right quadrant, seeking for the ileo-cecal region, and a mass was encountered in the small intestine. This was brought out and was found to be about 4 to 5 cm. in diameter, was indurated and lay along the mesenteric border, situated approximately two feet from the ileo-cecal valve. There were numerous enlarged lymph nodes throughout the mesentery, at least as far as the ileo-cecal valve. The loop of intestine was resected rather widely on either side of the mass, and an end to end anastomosis done. Patient made an uneventful post-operative recovery and was discharged healed on the fourteenth day. Patient has been heard from since and has continued well.

Gross Examination of the Specimen. On examining the specimen the lumen of the bowel was opened opposite the growth and the ostium of the diverticulum was found to be at the mesenteric border. This measured approximately 5 or 6 mm. The diverticulum was cut and the cavity was found largely occupied by a dense scar. There was marked adenosis of the mesentery.

Microscopic—(Path. Dept., Univ. of Va., Abbreviated report): "Sections taken proved the presence of gastric mucosa in the specimen. It is of the fundic type." The diagnosis was Meckel's diverticulum containing gastric mucosa.

As stated above, this cause of hemorrhage should be considered in children and young adults. The writer was unable to find any case of hemorrhage in an adult older than the one mentioned, namely twenty-nine years, and the vast majority of the cases reported as reviewed were under twelve years of age. No attempt has been made to discuss the various other pathological conditions which may be produced by a Meckel's diverticulum.

Several cases of malignancy involving a Meckel's diverticulum are on record, and, of course, it is altogether possible that hemorrhage from the bowel may accompany such a condition. These, however, are usually found in older persons. In dealing with children, if one has in mind the possibility of a hemorrhage coming from a Meckel's diverticulum, he may avoid over-looking a serious condition and one that is easily amenable to proper treatment.

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THE GENERAL PRACTITIONER'S FUTURE.*

C. F. MANGES, M.D.,
Blacksburg, Virginia.

As I complete my term of office as your president, I want again to express my sincere appreciation of the honor you conferred upon me and, as an expression of my gratitude, pledge my continued devotion to and interest in the Society. Our very efficient secretary, Dr. King, and the members of the executive committee deserve most of the credit for the advancement of our knowledge in the science and art of medicine, as well as the economic phase which we are all prone to overlook.

The general practitioner's future is very uncertain because of national and international conditions that are changing daily. Those called to active service will undoubtedly sustain a financial loss, while those remaining at home will receive an above average increase in income. If we are unable, or not inclined, even to partially compensate those called for their loss during their period of service, we should at least

*President's address delivered before the Southwestern Virginia Medical Society at Marion, Va., October 2, 1940.

be willing to send as many of their former patients as possible back to them, if and when they return, thereby helping them to keep their professional losses as low as possible.

The physician's future will be secure and well safe-guarded in his own hands, unless lay and political organizations are able to convince Federal and State authorities that we are rendering *inadequate* service to the masses.

It is not generally known, or at least not fully realized, that the Government has established, and in most cases subsidizes, group health units in about twenty-five States. The Farm Security Administration is the parent of these units, and its purpose is to keep farmers in health so they can work out their debts to the F. S. A.

This idea is spreading so widely that it amounts to a lot more than an expedient for F. S. A. to get its money back. It is fast becoming a nation-wide practice.

In South Dakota, for example, one-half of all the farm families of that State are eligible for group health treatment. Member families pay a regular fee—sick or well—of $2 a month, and the doctor takes care of them for everything from a toothache to child birth.

Though the American Medical Association has fought the group health plan, State and local medical associations affiliated with the A.M.A. are working with Farm Security in every State where the units have been established. *If* this plan only had *more medical* supervision and *less political* domination the clients thereof would get better service and the profession a more just compensation.

Our experimental contract with the Farm Security Administration, I am told, is not working out as we had hoped, or were led to believe it would, and the best test I know of its workability is to see if our members continue the work under the contract that allows us to stop anytime we feel so inclined.

Group practice, many claim, is better for the physician in that it removes the problem of the business end of his professional service and gives him full opportunity to devote his energies to the practice of medicine, instead of being harassed with the problems of collections and bookkeeping.

Medical men have a chance to forestall government control by taking the leadership in group medicine. Suppose we had, in every city and town, community medical groups—might not this mean *more paying* work for *more doctors,* a better level of health, and fewer financial worries for everybody?

The economic burden of a plan like this seems entirely too great for the medical profession to work out alone. The Federal Government could come to our financial aid with a plan which would meet the full cooperation of the medical profession. Any such plan should be safe-guarded by at least three fundamental principles: First, the medical profession and *not politicians* should direct the plan; second, the patient should always have the right to have the free choice of his own physician; third, "The Doctor-Patient Relationship" should not be disturbed. The Government should *not* desire the privileges of any one of these three fundamental prerequisites for success of such a plan.

Would it not seem that some plan could be worked out whereby all these advantages could be put to work and the great army of the needy reap the unbounding benefits to be derived therefrom?

Would it not be a great epoch and does not the trend of the present time demand a *well organized medically supervised cooperative plan* of more adequate medical service by the physicians *aided by* the local, State and Federal Governments? Would it be well for all medical leaders to lend our full influence to the A.M.A. Committee to the end that some satisfactory plan may be evolved, adopted and put into practice?

It would take divine wisdom to foresee the future but it only requires common sense to keep constantly before ourselves, before the public, and before our legislators the necessity of maintaining unsullied whatever is noble and worthy in medical practice. The only guide we have for the future is experience. Experience is largely the record of our mistakes—by trial and error. Lord Byron said, "The best prophet of the future is the past." There is ample evidence in events of the past of the deterioration of medicine under political influence. There has been no particular dissatisfaction of the public with the present type of medical service.

When physicians in the United States become, if they ever should, mere robots of a huge national compulsory system of medical care, making diagnoses from card indexes and mechanical gadgets, and prescribing treatment from prepared and numbered labels, and when patients become a mere col-

lection of interesting human specimens to be shunted from one corner to another of a medical repair shop for some heartless and pseudo-scientific tinkering, America will have lost one of its greatest institutions—free and independent medicine—and the American people will have lost some of their most valuable human traits, namely, confidence in, respect for, and reliance on the scientific men and women who protect their health and prolong their lives.

It is up to all of us to help mold public opinion, by the spoken and written word, as to the importance of medicine, initiating and directing any plans which have to do with governmental control.

Whether we accept lay leadership in telling us how, and when, for what, and on whom we shall ply the art of our science, rests with the membership of the medical profession.

Let us return now to a brief discussion of our subject, "The General Practitioner and His Future". May I suggest a few ways, and give you my humble opinion relative to prevention of so-called socialized or government administered medical practice.

First, let us think of our test of worth as being based on satisfactory civic and professional service rendered, as well as obligations to homes and families discharged, thus liquidating our debt to our respective locations.

Second, we should charge and receive reasonable compensation for services rendered, keeping in mind the income of our patients and their ability to pay. Those unable to pay should be cared for by the local or county welfare board on recommendation of their physician, who knows better than anyone else their economic status.

Next, we are frequently accused by the laity and others of not being able to get along peacefully with each other, and of unethical practices. If this is true, an effort should be made to correct it, and try treating others as we would like to be treated.

Another thing we frequently hear is that we are too busy to attend meetings or participate in their programs. True or untrue, this should not be, and I feel that the absentees are the losers.

Federal and State health boards come in for definite criticism by some. I think they are in existence because we have not devoted sufficient time and thought to the work they are now doing or have done in the past; further, they are making every possible effort to refer the work back to us where it properly belongs, if we will cooperate in discovery, prevention and treatment of disease. Progress in diagnosis and treatment of syphilis illustrates well what I refer to. Maternal health and child welfare as administered by our State Health Department deserves commendation. The local doctor should determine who is eligible for admission to such clinics.

I have said the future of the general practitioner is uncertain, and have outlined briefly a few things affecting it. If we engage actively in politics as related to medicine, are ethical and cooperate, keep as well informed as our status will allow, and, in the final analysis, if we are proud of our profession and location, and live so that our patients have reason to be proud of us, our future will remain in our own hands instead of the Government's.

Few people realize the very important part medicine has played in shaping civilization.

In reviewing Medicine and Surgery during the Middle Ages, we cannot help being impressed by the great advancement which present-day medicine and surgery portray. We may well be proud of our choice to enter this great and worthy field of humanitarian service.

Medical science will march on. Disease after disease will be conquered; the public will become educated in how to avoid disease; the medical profession will keep abreast of the march of medical science; the longevity of life will increase; and all this will bring to humanity, health, happiness, prosperity, and the joy of living.

What has been the motive for medical progress? Doctors, like other human beings, wish to escape pain, defeat, and failure. The preventable death of a patient means all three of these.

There is no consolation if a patient dies. Feeling this responsibility, the doctor has a greater urge to prevent its recurrence; and on such fundamental principles, progress depends.

The task of conserving and improving the nation's health belongs to the medical profession. Too many times and in too many ways and places the medical profession is invaded by lay men and women attempting to assume responsibility in the field of medicine which should be occupied only by medical men and women of dependability and skill.

What could be more disconcerting or ridiculous than some of the radio programs which are dinned into the ears of the American public? And in many

household magazines the advertisements are very disgusting.

These erroneous and misleading statements should be intercepted for the sake of the health of mankind. And we admit that far too frequently the profession falters and follows, instead of leading. Too often we discover that many of our practitioners need to be prodded to keep up with the advance of medical science.

About one hundred and fifty thousand men and women are practicing medicine in the United States to the best of their ability, but the developments of medical science are so rapid that unless these practitioners are willing to reach out constantly to grasp the newer knowledge they will fail to hold the confidence of their communities. There is too great a lag between the discoveries made by the leaders in research and the ability of the rank and file of physicians to use these advances for the benefit of their patients.

We like to think of the great advantages that could be received by all concerned, the public, the physician, and the benefits to scientific medicine, *if* the local, State, and Federal Governments, and the physicians should all unite in a non-political way and work out some good plan whereby all people, more especially the medically indigent and the low income group, could receive the very highest class of service; this service would cover the most modern scientific benefits to be derived from a plan that would receive full financial aid by the Government and the full benefit of the best scientific medical and public health minds of this country. Then it would be that thousands of poor doctors who are today only making a meager living, warming seats in empty offices, would be examining and treating the diseases of thousands of poor people. These ailments have heretofore, and are today sapping the lives of countless numbers of our citizens. Thousands of people have preventable and curative diseases and do not know it. How can they know it if they are not told? At the same time, however, they are helpless on account of financial distress to have these advantages applied for the benefit of their well being.

Something is wrong with our present system. Millions of Americans receive no medical care of any sort, while thousands of doctors, dentists, and nurses, are without adequate income because they can not find patients with money enough to pay for their services. That is what is known in dramatic circles as *a situation.* Organized, cooperative medicine seems sure to come. It is evident that our present system of medical care is inadequate. The reason is largely financial. The burden of care to the indigent sick is entirely too great for the medical profession to assume, though the profession should be praised in the highest terms for what it is doing and has done for the indigent.

To those who would keep pace with the progress being made in our profession, let us take every advantage offered through our local, State and national societies, and, as leaders, strive to improve every means for bettering our profession.

More than ever before there is an imperative need for these gatherings to continue from year to year as a means of keeping abreast with the problems of our profession. From these meetings we should take home more knowledge of the various modern trends and problems with which we are constantly confronted.

Gentlemen, I am grateful for your presence here, and I thank you for the undeserved honor that you have shown in listening to my remarks.

Mental Hygiene Activities

The subjects, Probation and Parole, will be constantly before the people of Virginia until they are settled. There is only one way to quiet this agitation and that is by supplying the need for well trained probation officers and well organized system of parole. No makeshift will do. The State might as well face it now.

There is another problem that is forcing its own solution. This is the lack of well trained personnel in State Hospitals. As soon as one State Hospital has an ample well trained staff the results are going to be so impressive that the legislators themselves will demand that all hospitals be so staffed. One doctor to four hundred patients vitiates any attempt at psychotherapy.

At the Danville meeting of the Mental Hygiene Society of Virginia on March 11th, A. Clair Sager of the Juvenile Court of Richmond discussed the problem of probation. The psychiatric treatment at a Virginia State Hospital was presented by Doctor James B. Pettis.

In Danville, as in most industrial cities, the borderline intelligence problem is a permanent one. The child with an intelligence quotient of 75 at 15 years of age would have an approximate mental age of 10 years, and could not be expected to progress much beyond the sixth grade in school, yet should be able to do fair work in the mills. The state law, however, prevents his going to work until he is sixteen. Therefore, there is a lapse of time when neither school nor mill can employ this child. The effort that Danville is making to meet this situation with special schools and practical arts was also discussed at the Danville meeting.

On the 25th of April, in Roanoke, this problem will be discussed before the Mental Hygiene Section of the Virginia Conference of Social Work by a psychiatric social worker, Mrs. Wyatt of the Childrens Bureau, Judge Weems of the Juvenile Court of Winchester, and Dr. James Williams of the State Mental Hygiene Clinic. Dr. Preston, Director of State Hospitals of Maryland, and Dr. Roy McLaughlin of Meriden, Conn., will be on the same program. This program is set especially for social workers, but should have an universal appeal. The medical profession is urged to attend this meeting, as well as a meeting on Thursday night, May 8th, when Dr. Myerson of Boston and Dr. Rowntree of The Selective Service System will address the Mental Hygiene Society in Richmond.

One of the most remarkable things in the medical world today is the doctor's fear of the psychiatrist. Why is it that the doctor hesitates to send a patient who is mentally sick to a psychiatrist or a psychiatric hospital? The doctor has some vague idea that the psychiatrist or the hospital would make the patient "go crazy", as if the psychiatrist could inject "craziness" or that this man trained to treat the mentally sick would so shock the patient that all reason would immediately flee. Perhaps this behavior is based on the idea that as long as mental disease is not recognized it will not exist. The neurosis as a neurological disease is highly respectable, but loses caste immediately when said to be psychogenic. It has seemed to me that the idea of disaster and disgrace associated with psychiatrists, psychiatric hospitals and clinics is much more firmly fixed in the medical mind than among the laity. It is rare that the patient dreads the psychiatric visit, but the doctor wishes the psychiatrist to disguise himself so as to creep upon the patient unaware. Such archaic attitudes still exist in Virginia to such a degree that the powerful influence of the medical profession is not wholeheartedly behind the advances in psychiatry in the State. The Mental Hygiene Society of Virginia begs the interest of the Medical Society and again urges attendance at the announced meetings.

FINLEY GAYLE, M.D.

Public Health Statistics

I. C. RIGGIN, M.D.,
State Health Commissioner of Virginia.

The report of the Bureau of Communicable Diseases of the State Department of Health for February, 1941, compared with the same month in 1940 and for the period of January through February, 1941, compared with the same period in 1940, follows:

	FEB. 1941	FEB. 1940	JAN.-FEB. 1941	JAN.-FEB. 1940
Typhoid and Paratyphoid Fever	11	6	19	17
Diarrhea and Dysentery	37	78	81	124
Measles	3,343	123	4,193	230
Scarlet Fever	174	142	368	361
Diphtheria	34	59	74	131
Poliomyelitis	2	2	5	4
Meningitis	8	10	14	14
Undulant Fever	1	3	3	4
Rocky Mountain Spotted Fever	1	0	1	2
Tularemia	5	5	13	23

RURAL PHYSICIANS AND CHILDREN'S CAMPS

Owners of summer camps in Virginia for children under eighteen years of age in the near future will be advised by the State Department of Health that requests for permits to operate should be forwarded to the Department as soon as possible.

Permits are based upon an inspection by health department personnel. The inspection includes location, sanitary facilities, water supply, extent of screening against flies and other insects, waste, garbage and trash disposal facilities, source of supply and methods of handling food, employees engaged in handling food, milk supply, methods of washing and sanitizing eating and drinking utensils, general cleanliness of buildings, grounds and equipment, as well as of the bathing and swimming facilities.

The 1940 law regulating children's summer camps

placed the enforcement upon the State Department of Health. Last season the Department inspected 104 camps. However, it is known that this number is below the actual number of camps which operated during the summer of 1940.

Inasmuch as the law was new last year, the Department was inclined to be somewhat lenient towards those who failed to comply with it. However, the Department expects rigidly to enforce its provisions this season. Operators failing to request permits, and found to be operating without them, will be prosecuted.

A permit only is good for the year for which it is issued. All permits must be annually renewed. None will be issued until a request is received from an owner or operator, and the necessary inspection made, indicating that the minimum health standards required by the law have been met.

Physicians in rural communities can aid the Department in enforcing this law by notifying it of camps known to have operated in their jurisdiction last season. Cooperation of this kind not only will aid in protecting the health of camp children, but in addition should markedly reduce the need of prosecuting negligent owners.

Knowledge of the existence of unlisted camps will make possible an official request to the operator that requests for permits be filed by them. The Department's objective is to bring into line operators of children's camps, preferably by direct suggestion, where initiative on the part of the operator is lacking.

Woman's Auxiliary to the Medical Society of Virginia

President—MRS. GRIFFIN W. HOLLAND, Eastville.
President-Elect—MRS. E. LATANE FLANAGAN, Richmond.
Recording Secretary—MRS. HAROLD W. POTTER, Hilton Village.
Corresponding Secretary—MRS. J. WALKER JACKSON, Machipongo.
Parliamentarian—MRS. JAMES B. STONE, Richmond.
Treasurer—MRS. REUBEN F. SIMMS, Richmond.
Chairman, Press and Publicity—MRS. HENRY M. SNEAD, Petersburg.

The National Meeting.

Only a few more weeks and the members of the Woman's Auxiliary to the American Medical Association will be arriving in Cleveland for their Annual Convention, June 2-6. Have you made your reservations? If not, send your request, *at once*, to Dr. Edward F. Kieger, Chairman of Committee on Hotels and Housing, 1604 Terminal Tower Building, Cleveland, Ohio.

The Story of Jane Todd Crawford.*

One of the projects of the southern auxiliaries is to establish a memorial to Mrs. Jane Todd Crawford, who played an important part at the beginning of a new era in surgery.

This story could take its place with any of the stirring episodes in "Tree of Liberty." The same pioneer spirit that is dramatized in this book and moving picture must have been present in the Crawfords, especially in Mrs. Jane Todd Crawford, who was among the pioneer settlers in the new territories of Kentucky and later Indiana, and was also a pioneer in submitting to a new surgical operation. The story of the Howards sets the picture for the story of Jane Todd Crawford.

Jane Todd Crawford was born in Rockbridge County, Virginia, on December 23, 1763. Her father, Samuel Todd, was at one time sheriff of Botetourt County. Jane was the second eldest of six daughters and two sons. Rockbridge County was then on the frontier of the colonies, bordered on the west by the Alleghenies, beyond which lay unknown territory held by the Indians. Only three years before her birth Daniel Boone had climbed the mountains for the first time.

Jane was married to Thomas Crawford on January 9, 1794, by the Rev. Sam Houston. Eleven years later they moved to Kentucky and settled near Greensburg, the county seat of Green county. Here five children were born to the Crawfords.

When Jane Crawford was forty-six years old she believed herself again to be pregnant. Although the ninth and tenth months brought the most terrible labor pains, there were no signs of a birth. In December the two local physicians, puzzled by her peculiar illness, called Dr. Ephriam McDowell of Danville, Kentucky, into consultation. Although only thirty-eight years old, Dr. McDowell was the leading surgeon of the Kentucky frontier and the best trained

*This paper, based on material from "Doctors on Horseback" was prepared and read by Mrs. John B. Hamilton of Nassawadox, Va., at a recent meeting of the Woman's Auxiliary to the Accomack-Northampton County Medical Societies.

physician in the Mississippi valley. He made the sixty-mile trip through the frozen wilderness and reached the log cabin where Jane Crawford lay in a box filled with willow boughs.

After a careful and gentle examination and a few words with his colleagues, he asked to be alone with Mrs. Crawford. Dusk faded into night beyond the window of oiled paper. The little room that housed a whole family was lighted by one candle and an open fire over which heavy iron kettles simmered. The tall doctor, overflowing a homemade chair, told Mrs. Crawford the truth and gave her a heroic choice. He told her that he brought her bad news. She was not with child; she had a tumor of the ovaries. He explained that he had studied in Edinburgh with some of the world's greatest surgeons, who had taught him that women with ovarian tumors must inevitably die; they could promise the patient nothing but two years of gradually increasing misery unless God worked a miracle. Some had wondered whether ovarian tumors might not be cured by cutting out the diseased part. The operation would be similar to spaying and animals recovered from being spayed. But no one dared to argue the point. Dr. McDowell pointed out that surgery was practically limited to the dressing of wounds and amputating limbs; operators did not dare invade the great cavities of the body. They believed that once the inner wall of the abdomen was exposed to the atmosphere, nothing could protect it from infection. During the hundred years in which excising tumors had been discussed no surgeon had ever dared hazard an operation, and so the patients always died in long-drawn-out agony. He knew the outcome if he tried and failed; his practice wiped out or even tried and judged guilty of murder. None the less he told his patient: "If you think you are prepared to die, I will take the lump from you if you will come to Danville."

A woman like Mrs. Crawford could never look heroic. Short, her naturally heavy body distorted by a tremendous tumor, her face marred by features too large and a long mouth too firmly set, she was a figure for pity, not romance. Yet there must have been a strange look in her gray eyes as she spoke quietly: "I will go with you." She said she would "hazard anything that held even the remote prospect of relief."

First there was the ride of sixty miles on horseback in mid-winter, but only in his home where his drugs, instruments and trained assistants were at hand, could he dare attempt the feat. The next day Mrs. Crawford was helped into the saddle, her huge tumor pressed against the pommel. A neighboring housewife accompanied her, since her husband had to care for the farm and the children. He watched the procession out of sight, certain he would never see his wife again. Each mile of travel brought increasing agony to Mrs. Crawford. At night they lodged with settlers along the trail. Always Mrs. Crawford was received with sympathy, and her doctor with suppressed indignation. Long before he reached Danville, McDowell must have begun to expect trouble from the mob.

At last the sixty miles were behind them and the doctor's wife had put Mrs. Crawford to bed. When the surgeon's nephew and partner heard what his uncle proposed to do, he refused to assist and continued to argue constantly against such madness. The proposed operation became the topic of the day in Danville and men began to say that McDowell must be stopped either by law or the people if need be.

He decided to operate on Christmas day, when the prayers of all the world, rising up to God, would create a propitious atmosphere. He engaged in extensive preparations, such as study of plates of the abdomen and rehearsing the operation with his apprentice.

Christmas day dawned with the ringing of bells. As soon as Dr. McDowell arose his nephew came and said he had determined to give his assistance. As Mrs. Crawford walked into the operating room the streets were quiet, for everyone was at church. One of the ministers was delivering a fiery sermon against the operation. The room was like any other room in the house except that it was bare but for a plain wooden table onto which Mrs. Crawford was strapped. The only known anaesthetic being a few opium pills, naturally she had to be fastened down. The surgeons waited in their ordinary clothes, their coats off and their sleeves rolled up. The knives and forceps had been washed and laid on an ordinary linen cover.

(To be Continued)

Military and Naval Section

In this section of the MONTHLY will appear regularly notices and announcements pertaining to the medical departments of the Army and Navy, the names of those who have been ordered to active duty, promotions, transfers, and other items of military medical interest.

Personnel of the boards before which the selectees appear follows:

Examining Physicians on Local Boards

ACCOMACK COUNTY No. 1, PARKSLEY
Dr. O. R. Fletcher, Sanford.
Dr. J. L. DeCormis, Accomac.
Dr. W. W. Kerns, Bloxom.
Dr. C. E. Critcher, New Church.

ACCOMACK COUNTY No. 2, ACCOMAC
Dr. R. J. White, Keller.
Dr. C. F. Gladstone, Tangier.

ALBEMARLE COUNTY, CHARLOTTESVILLE
Dr. R. G. Magruder, Charlottesville.
Dr. J. O. Mundy, Charlottesville.
Dr. T. E. Jones, Charlottesville.
Dr. F. D. Daniel, Charlottesville.

CHARLOTTESVILLE CITY, CHARLOTTESVILLE
Dr. Byrd S. Leavell, Charlottesville.
Dr. W. H. Paine, Charlottesville.
Dr. R. T. Ergenbright, Charlottesville.
Dr. Wm. H. Wood, Charlottesville.

ALLEGHANY COUNTY, COVINGTON
Dr. N. B. Jeter, Covington.

CLIFTON FORGE CITY, CLIFTON FORGE
Dr. R. L. Claterbaugh, Clifton Forge.

AMELIA COUNTY, AMELIA
Dr. J. L. Hamner, Mannboro.
Dr. J. T. O'Neal, Amelia.
Dr. H. C. Rucker, Mattoax.

AMHERST COUNTY, AMHERST
Dr. J. R. Saunders, Madison Heights.
Dr. M. M. Gratz, Amherst.
Dr. R. N. Hillsman, Amherst.
Dr. E. M. Sandidge, Amherst.
Dr. J. A. Drake, Monroe.

APPOMATTOX COUNTY, APPOMATTOX
Dr. D. A. Christian, Appomattox.

ARLINGTON COUNTY No. 1, ARLINGTON
Dr. J. H. Judson, Arlington.
Dr. Henry Bastien, Arlington.
Dr. S. T. Noland, Arlington.
Dr. T. A. Moneymaker, Arlington.
Dr. Alfred Palmer, Arlington.
Dr. William B. King, Arlington.
Dr. Roy Nicholson, Arlington.

ARLINGTON COUNTY No. 2, ARLINGTON
Dr. J. H. Walton, Arlington.
Dr. W. C. Welburne, Arlington.

ALEXANDRIA CITY, ALEXANDRIA
Dr. J. A. Gooch, Alexandria.
Dr. W. C. McCluer, Alexandria.
Dr. J. W. Love, Alexandria.
Dr. S. Novak, Alexandria.
Dr. G. Lemeshewsky, Alexandria.
Dr. C. E. Arnette, Alexandria.
Dr. H. B. Hutt, Alexandria.
Dr. N. Schuman, Alexandria.
Dr. R. Benthall, Alexandria.

AUGUSTA COUNTY No. 1, WAYNESBORO
Dr. H. B. Webb, Waynesboro.
Dr. A. M. McLaughlin, Waynesboro.
Dr. L. S. Booker, Waynesboro.
Dr. Sam Silver, Waynesboro.

AUGUSTA COUNTY No. 2, STAUNTON
Dr. B. H. Payne, Staunton.
Dr. T. W. Hankins, Fordwick.
Dr. H. G. Middlekauff, Weyers Cave.
Dr. Alex. Robertson, Staunton.
Dr. J. H. Guss, Churchville.

STAUNTON CITY, STAUNTON
Dr. C. P. Obenschain, Staunton.
Dr. C. F. Gaylord, Staunton.
Dr. Leland Brown, Staunton.

BATH COUNTY, WARM SPRINGS
Dr. H. C. Burrus, Hot Springs.
Dr. G. A. Torrence, Hot Springs.
Dr. M. Brown, Hot Springs.

BEDFORD COUNTY, BEDFORD
Dr. W. G. Hardy, Bedford.
Dr. M. V. Rucker, Bedford.
Dr. R. C. Anderson, Bedford.

BLAND COUNTY, BLAND
Dr. J. A. Wagner, Bland.
Dr. Harry Steinberg, Bastian.

BOTETOURT COUNTY, FINCASTLE
Dr. W. N. Breckinridge, Fincastle.

BRUNSWICK COUNTY, LAWRENCEVILLE
Dr. T. H. Anderson, Lawrenceville.
Dr. W. P. Baker, Alberta.
Dr. J. B. Vaiden, Lawrenceville.
Dr. C. F. Nelson, Lawrenceville.

BUCHANAN COUNTY, GRUNDY
Dr. Paul Bundy, Grundy.

BUCKINGHAM COUNTY, BUCKINGHAM
Dr. Garland Dyches, Dillwyn.

CAMPBELL COUNTY, RUSTBURG
Dr. W. O. Tune, Brookneal.
Dr. Otis Watkins, Rustburg.
Dr. J. Paul Kent, Altavista.
Dr. Q. H. Barney, Altavista.

LYNCHBURG CITY No. 1, LYNCHBURG
Dr. W. Clyde Adkerson, Lynchburg.
Dr. Powell Dillard, Lynchburg.

LYNCHBURG CITY No. 2, LYNCHBURG
Dr. H. L. Riley, Lynchburg.
Dr. John Hundley, Jr., Lynchburg.

CAROLINE COUNTY, BOWLING GREEN
Dr. Clarence Campbell, Sparta.

Dr. John G. Broaddus, Bowling Green.
Dr. R. B. Phillips, Bowling Green.
Dr. Wm. Flegenheimer, Guinea.
Dr. J. R. Travis, New London.

CARROLL COUNTY, HILLSVILLE
Dr. W. A. Porter, Hillsville.

CHARLES CITY COUNTY, CHARLES CITY
Dr. R. D. Garcin, Jr., R.F.D. 5, Richmond.

CHARLOTTE COUNTY, CHARLOTTE C. H.
Dr. W. R. Martin, Charlotte C. H.
Dr. Wm. P. Terry, Charlotte C. H.

CHESTERFIELD COUNTY, CHESTER
Dr. James R. Parkinson, Chester.

CLARKE COUNTY, BERRYVILLE
Dr. C. H. Iden, Berryville

CRAIG COUNTY, NEWCASTLE
Dr. W. F. Mitchell, Newcastle.

CULPEPER COUNTY, CULPEPER
Dr. O. K. Burnette, Culpeper.

CUMBERLAND COUNTY, CUMBERLAND C. H.
Dr. Ernest Nuckols, Cumberland.

DICKENSON COUNTY, CLINTWOOD
Dr. Sandidge Evans, Clintwood.
Dr. F. H. Yorkhoff, Clintwood.
Dr. Rufus Phipps, Clintwood.

DINWIDDIE COUNTY, DINWIDDIE
Dr. D. C. Mayes, Church Road.
Dr. C. T. Jones, Petersburg.
Dr. G. S. Fultz, Dinwiddie.
Dr. R. H. Manson, McKenney.

PETERSBURG CITY, PETERSBURG
Dr. J. B. Darden, Petersburg.
Dr. H. M. Snead, Petersburg.
Dr. J. E. Smith, Petersburg.
Dr. G. H. Williams, Petersburg.
Dr. J. A. Shields, Petersburg.
Dr. L. F. Brown, Petersburg.

ELIZABETH CITY COUNTY, HAMPTON
Dr. F. A. Kearney, Phoebus.
Dr. A. T. Scott, Hampton.
Dr. E. S. Jones, Hampton.

HAMPTON CITY, HAMPTON
Dr. Burl Bassette, Hampton.
Dr. Willard Smith, Hampton.
Dr. Paul Parker, Hampton.
Dr. B. E. Hunt, Hampton.

ESSEX COUNTY, TAPPAHANNOCK
Dr. F. B. Wilson, Tappahannock.

FAIRFAX COUNTY, FAIRFAX
Dr. W. D. Chase, McLean.
Dr. G. R. Carpenter, Fairfax.
Dr. T. B. McCord, Fairfax.
Dr. C. A. Finnigan, Falls Church.

FAUQUIER COUNTY, WARRENTON
Dr. Wm. R. Pretlow, Warrenton.
Dr. J. E. Knight, Warrenton.
Dr. W. G. Trow, Warrenton.

FLOYD COUNTY, FLOYD
Dr. F. C. Bedsaul, Floyd.

FLUVANNA COUNTY, PALMYRA
Dr. A. C. Whitley, Palmyra.

FRANKLIN COUNTY, ROCKY MOUNT
Dr. George Booth, Rocky Mount.
Dr. W. H. Cobbs, Rocky Mount.
Dr. E. C. Jamison, Rocky Mount.

FREDERICK COUNTY, WINCHESTER
Dr. B. B. Dutton, Winchester.
Dr. Lewis Allen, Winchester.

WINCHESTER CITY, WINCHESTER
Dr. H. I. Pifer, Winchester.
Dr. George G. Snarr, Winchester.

GILES COUNTY, PEARISBURG
Dr. E. S. Carr, Narrows.
Dr. Walter Caudill, Pearisburg.
Dr. Luther B. Lowe, Pearisburg.
Dr. S. A. Tuck, Pembroke.
Dr. H. G. Johnston, Pearisburg.
Dr. M. C. Newton, Narrows.

GLOUCESTER COUNTY, GLOUCESTER
Dr. J. D. Clements, Ordinary.

GOOCHLAND COUNTY, GOOCHLAND
Dr. W. S. Lloyd, Goochland.
Dr. H. H. Hines, State Farm.

GRAYSON COUNTY, INDEPENDENCE
Dr. J. C. Phipps, Fries.
Dr. V. J. Cox, Galax.
Dr. E. S. Elliott, Independence.
Dr. V. O. Choate, Galax.

GREENE COUNTY, STANARDSVILLE
Dr. M. D. Foster, Stanardsville.

GREENSVILLE COUNTY, EMPORIA
Dr. C. W. Cartwright, Emporia.
Dr. J. D. Kiser, Emporia.
Dr. W. D. Joyner, Emporia.

HALIFAX COUNTY No. 1, SOUTH BOSTON
Dr. R. H. Fuller, South Boston.
Dr. W. R. Watkins, South Boston.
Dr. I. K. Briggs, South Boston.

HALIFAX COUNTY No. 2, SOUTH BOSTON
Dr. A. P. Bohannon, Virgilina.

HANOVER COUNTY, HANOVER C. H.
Dr. E. T. Bray, Hanover.

HENRICO COUNTY No. 1, RICHMOND
Dr. H. Norton Mason, Richmond.
Dr. E. L. Copley, Richmond.

HENRICO COUNTY No. 2, RICHMOND
Dr. F. P. Fletcher, Richmond.
Dr. Herman Bailey, Sandston.

RICHMOND CITY No. 1, RICHMOND
Dr. H. W. Blanton, Richmond.

RICHMOND CITY No. 2, RICHMOND
Dr. Emmett C. Matthews, Richmond.
Dr. Harold Goodman, Richmond.
Dr. I. A. Jackson, Richmond.

RICHMOND CITY No. 3, RICHMOND
Dr. Felix J. Brown, Richmond.
Dr. C. C. Trice, Richmond.
Dr. Louis Lovenstein, Richmond.

RICHMOND CITY No. 4, RICHMOND
Dr. Robert G. Willis, Richmond.
RICHMOND CITY No. 5, RICHMOND
Dr. E. B. Singleton, Richmond.
Dr. E. L. Kellum, Richmond.
Dr. Gregory Shaed, Richmond.
Dr. Carl W. Meador, Richmond.
Dr. I. Rifkin, Richmond.
RICHMOND CITY No. 6, RICHMOND
Dr. L. B. Sheppard, Richmond.
Dr. B. W. Rawles, Sr., Richmond.
Dr. Carl W. LaFratta, Richmond.
RICHMOND CITY No. 7, RICHMOND
Dr. W. M. T. Forrester, Richmond.
Dr. E. B. Talbot, Richmond.
Dr. E. C. White, Richmond.
Dr. E. A. Delarue, Richmond.
Dr. R. F. Simms, Richmond.
Dr. L. T. Stoneburner, Jr., Richmond.
RICHMOND CITY No. 8, RICHMOND
Dr. T. W. Nelson, Richmond.
Dr. T. N. Barnett, Richmond.
Dr. G. R. Maloney, Richmond.
Dr. J. P. Jones, Richmond.
HENRY COUNTY, MARTINSVILLE
Dr. R. H. Walker, Martinsville.
Dr. G. L. Jones, Martinsville.
Dr. M. M. Gordon, Martinsville.
MARTINSVILLE CITY, MARTINSVILLE
Dr. D. O. Baldwin, Martinsville.
Dr. E. M. McDaniel, Martinsville.
Dr. H. G. Hammond, Martinsville.
HIGHLAND COUNTY, MONTEREY
Dr. C. B. Fox, Monterery.
Dr. B. T. Swecker, Crabbottom.
ISLE OF WIGHT COUNTY, ISLE OF WIGHT
Dr. Tom Massey, Smithfield.
JAMES CITY COUNTY, TOANO
Dr. B. I. Bell, Williamsburg.
WILLIAMSBURG CITY, WILLIAMSBURG
Dr. Henry E. Davis, Williamsburg.
KING AND QUEEN COUNTY, KING AND QUEEN C. H.
Dr. R. D. Bates, Newtown.
KING GEORGE COUNTY, KING GEORGE C. H.
Dr. R. N. Harris, Port Royal.
KING WILLIAM COUNTY, KING WILLIAM C. H.
Dr. A. W. Lewis, Aylett.
Dr. W. S. Cox, West Point.
Dr. Hawes Campbell, Venter.
Dr. Paul C. Pearson, Aylett.
LANCASTER COUNTY, LANCASTER
Dr. M. C. Oldham, Kilmarnock.
LEE COUNTY No. 1, JONESVILLE
Dr. T. B. Ely, Jonesville.
LEE COUNTY No. 2, PENNINGTON GAP
Dr. J. H. Dellinger, Pennington Gap.
Dr. G. B. Setzler, Pennington Gap.
LOUDOUN COUNTY, LEESBURG
Dr. J. T. Jackson, Leesburg.
Dr. D. T. Saffer, Leesburg.
Dr. F. T. Hauser, Purcellville.
Dr. W. P. Frazer, Hamilton.
LOUISA COUNTY, LOUISA
Dr. E. B. Pendleton, Cuckoo.
Dr. H. S. Daniel, Louisa.
LUNENBURG COUNTY, LUNENBURG
Dr. W. D. Kendig, Kenbridge.
Dr. K. S. Freeman, Kenbridge.
MADISON COUNTY, MADISON C. H.
Dr. E. N. Lillard, Madison.
Dr. R. K. Butler, Madison.
MATHEWS COUNTY, MATHEW C. H.
Dr. J. R. Gill, Mathews.
MECKLENBURG COUNTY, BOYDTON
Dr. H. H. Braxton, Chase City.
Dr. G. N. Carter, Boydton.
Dr. L. H. Hoover, Clarksville.
Dr. W. J. Ozlin, South Hill.
MIDDLESEX COUNTY, SALUDA
Dr. H. F. Hoskins, Saluda.
MONTGOMERY COUNTY, CHRISTIANSBURG
Dr. R. H. Grubbs, Christiansburg.
Dr. T. L. Gemmill, Radford.
Dr. H. L. Dean, Radford.
RADFORD CITY, RADFORD
Dr. J. L. Early, Radford.
NANSEMOND COUNTY, SUFFOLK
Dr. Ed. Joyner, Suffolk.
Dr. G. G. Holland, Holland.
Dr. C. W. Steel, Suffolk.
Dr. M. T. Plyler, Jr., Whaleyville.
SUFFOLK CITY, SUFFOLK
Dr. C. H. Dawson, Suffolk.
NELSON COUNTY, LOVINGSTON
Dr. E. C. Kidd, Lovingston.
Dr. J. F. Thaxton, Tye River.
NEW KENT COUNTY, NEW KENT
Dr. J. R. Parker, Providence Forge.
NORFOLK COUNTY No. 1, PORTSMOUTH
Dr. S. J. Tabor, Portsmouth.
NORFOLK COUNTY No. 2, PORTSMOUTH
Dr. T. E. Jones, Portsmouth.
Dr. G. W. Hayes, Portsmouth.
Dr. L. E. Mayo, Jr., Portsmouth.
Dr. J. R. St. George, Portsmouth.
SOUTH NORFOLK CITY, SOUTH NORFOLK
Dr. S. C. DeLaura, Norfolk.
Dr. J. M. Schoenfeld, Norfolk.
Dr. H. G. Ashburn, S. Norfolk.
NORFOLK CITY No. 1, NORFOLK
Dr. J. P. Bradshaw, Norfolk.
Dr. A. Burke, Norfolk.
Dr. M. S. Andrews, Norfolk.
Dr. H. W. Rogers, Norfolk.
NORFOLK CITY No. 2, NORFOLK
Dr. J. W. Anderson, Norfolk.
Dr. A. G. Horton, Norfolk.

Dr. R. B. Grinnan, Jr., Norfolk.
Dr. N. F. Rodman, Norfolk.

NORFOLK CITY NO. 3, NORFOLK
Dr. W. A. Porter, Norfolk.
Dr. M. S. Fitchett, Norfolk.
Dr. C. L. Harrell, Norfolk.
Dr. Foy Vann, Norfolk.
Dr. R. A. Gay, Norfolk.
Dr. M. R. Whitehill, Norfolk.

NORFOLK CITY NO. 4, NORFOLK
Dr. W. P. Adams, Norfolk.
Dr. C. C. Smith, Norfolk.
Dr. C. M. McCoy, Norfolk.
Dr. W. P. Sellers, Norfolk.

NORFOLK CITY NO. 5, NORFOLK
Dr. B. R. Kennon, Norfolk.
Dr. N. G. Wilson, Norfolk.
Dr. B. D. Jones, Norfolk.
Dr. F. C. Rinker, Norfolk.

PORTSMOUTH CITY NO. 1, PORTSMOUTH
Dr. E. T. Glover, Portsmouth.
Dr. S. B. Moore, Portsmouth.
Dr. Vernon Brooks, Portsmouth.

PORTSMOUTH CITY NO. 2, PORTSMOUTH
Dr. R. M. Cox, Portsmouth.
Dr. L. A. McAlpin, Portsmouth.
Dr. G. H. Carr, Jr., Portsmouth.

NORTHAMPTON COUNTY, EASTVILLE
Dr. E. H. Trower, Eastville.

NORTHUMBERLAND COUNTY, HEATHSVILLE
Dr. W. B. Richardson, Heathsville.
Dr. M. M. Neale, Heathsville.

NOTTOWAY COUNTY, NOTTOWAY
Dr. J. M. Hurt, Blackstone.
Dr. J. A. B. Lowry, Crewe.

ORANGE COUNTY, ORANGE
Dr. O. N. Shelton, Orange.
Dr. Lewis Holladay, Orange.
Dr. G. R. Elliott, Orange.
Dr. W. R. Warren, Woodberry Forest.

PAGE COUNTY, LURAY
Dr. E. G. Brumback, Luray.
Dr. F. T. Amiss, Luray.
Dr. G. H. Long, Luray.

PATRICK COUNTY, STUART
Dr. B. A. Hopkins, Stuart.
Dr. W. N. Thompson, Stuart.

PITTSYLVANIA COUNTY NO. 1, CHATHAM
Dr. H. H. Hammer, Chatham.

PITTSYLVANIA COUNTY NO. 2, CHATHAM
Dr. J. T. Daves, Danville.
Dr. A. M. Owen, Gretna.
Dr. J. C. Anderson, Chatham.
Dr. H. A. Wiseman, Jr., Danville.
Dr. G. V. Thompson, Chatham.

PITTSYLVANIA COUNTY NO. 3, SCHOOLFIELD
Dr. J. J. Neal, Danville.
Dr. J. M. Robinson, Danville.
Dr. Lawrence Crumpler, Danville.
Dr. E. W. Arnett, Danville.
Dr. H. R. Bourne, Danville.

DANVILLE CITY, DANVILLE
Dr. D. L. Arey, Danville.
Dr. P. W. Miles, Danville.

POWHATAN COUNTY, POWHATAN C. H.
Dr. O. H. Whitlock, Powhatan.
Dr. H. C. Rucker, Mattoax.

PRINCE EDWARD COUNTY, FARMVILLE
Dr. T. G. Hardy, Farmville.

PRINCE GEORGE COUNTY, PRINCE GEORGE
Dr. R. T. Hawks, Carson.
Dr. Francis Taylor, Petersburg.
Dr. F. J. Wright, Jr., Petersburg.

HOPEWELL CITY, HOPEWELL
Dr. O. L. Jones, Hopewell.
Dr. C. A. Robbins, Hopewell.
Dr. L. S. Barksdale, Hopewell.

PRINCESS ANNE COUNTY, PRINCESS ANNE C. H.
Dr. R. E. Whitehead, R.F.D., Norfolk.

PRINCE WILLIAM COUNTY, MANASSAS
Dr. Stewart McBryde, Manassas.

PULASKI COUNTY, PULASKI
Dr. W. I. Owen, Pulaski.

RAPPAHANNOCK COUNTY, WASHINGTON
Dr. J. P. Snead, Sperryville.

RICHMOND COUNTY, WARSAW
Dr. J. H. Hare, Warsaw.

ROANOKE COUNTY NO. 1, SALEM
Dr. E. W. Senter, Salem.
Dr. J. C. Darden, Salem.
Dr. R. B. Smiley, Salem.

ROANOKE COUNTY NO. 2, SALEM
Dr. R. H. Newman, Vinton.
Dr. J. L. Kinzie, Salem.
Dr. R. B. Williams, Salem.

ROANOKE CITY NO. 1, ROANOKE
Dr. T. D. Armistead, Roanoke.
Dr. J. D. Willis, Roanoke.
Dr. E. F. Flora, Roanoke.

ROANOKE CITY NO. 2, ROANOKE
Dr. John O. Boyd, Roanoke.
Dr. J. H. Roberts, Roanoke.
Dr. J. B. Claytor, Roanoke.
Dr. W. O. Porter, Roanoke.

ROANOKE CITY NO. 3, ROANOKE
Dr. G. W. Hooker, Roanoke.
Dr. J. H. Bailey, Roanoke.
Dr. K. D. Graves, Roanoke.
Dr. B. P. Seward, Roanoke.
Dr. L. C. Downing, Roanoke.

ROCKBRIDGE COUNTY, LEXINGTON
Dr. O. H. McClung, Lexington.
Dr. F. M. Leech, Lexington.
Dr. E. V. Brush, Lexington.

BUENA VISTA CITY, BUENA VISTA
Dr. Marshall Vaden, Buena Vista.
Dr. R. R. Eason, Buena Vista.

ROCKINGHAM COUNTY, HARRISONBURG
Dr. B. S. Yancey, Harrisonburg.
HARRISONBURG CITY, HARRISONBURG
Dr. Joe Ney, Harrisonburg.
Dr. John Biedler, Harrisonburg.
RUSSELL COUNTY, LEBANON
Dr. W. C. Elliott, Lebanon.
SCOTT COUNTY, GATE CITY
Dr. W. L. Griggs, Gate City.
Dr. F. G. McConnell, Gate City.
Dr. S. P. Gardner, Gate City.
SHENANDOAH COUNTY, WOODSTOCK
Dr. H. W. Miller, Woodstock.
SMYTH COUNTY, MARION
Dr. R. H. Harrington, Marion.
SOUTHAMPTON COUNTY, COURTLAND
Dr. T. Addison Morgan, Franklin.
SPOTSYLVANIA COUNTY, SPOTSYLVANIA
Dr. T. B. Payne, Fredericksburg.
Dr. F. T. Cassiday, Fredericksburg.
FREDERICKSBURG CITY, FREDERICKSBURG
Dr. R. C. Ellison, Fredericksburg.
Dr. Frank Pratt, Fredericksburg.
Dr. G. B. Harrison, Fredericksburg.
STAFFORD COUNTY, STAFFORD C. H.
Dr. J. C. Gordon, Stafford C. H.
Dr. J. McI. Jackson, Manassas.
SURRY COUNTY, SURRY
Dr. B. H. Knight, Surry.
SUSSEX COUNTY, SUSSEX C. H.
Dr. R. B. McEwen, Wakefield.
TAZEWELL COUNTY No. 1, TAZEWELL
Dr. M. B. Crockett, Tazewell.
Dr. J. M. Higginbotham, Tazewell.
Dr. J. W. Witten, Tazewell.
Dr. J. P. Williams, Richlands.
Dr. Joseph Robinson, Richlands.
TAZEWELL COUNTY No. 2, BLUEFIELD
Dr. H. H. Ballard, Pocahontas.
Dr. H. A. Porter, Boissevain.
Dr. H. C. Davis, Bluefield.
WARREN COUNTY, FRONT ROYAL
Dr. O. W. Carper, Front Royal.
Dr. J. W. Clarke, Front Royal.
WARWICK COUNTY, DENBIGH
Dr. E. W. Buckingham, Newport News.
Dr. G. C. Amory, Hilton Village.
Dr. J. T. Tankard, Hilton Village.
Dr. C. T. Lawford, Hilton Village.
NEWPORT NEWS CITY No. 1, NEWPORT NEWS
Dr. T. N. Hunnicutt, Jr., Newport News.
Dr. E. Bruce Mewborne, Newport News.
Dr. Frank H. Zack, Newport News.
Dr. J. E. Fissel, Newport News.
NEWPORT NEWS CITY No. 2, NEWPORT NEWS
Dr. J. E. Marable, Newport News.
Dr. E. D. Blechman, Newport News.
WASHINGTON COUNTY No. 1, ABINGDON
Dr. J. A. Wolfe, Abingdon.
Dr. G. H. Wolfe, Abingdon.
Dr. E. D. Rollins, Bristol.
Dr. J. M. Boykin, Bristol.
WASHINGTON COUNTY No. 2, ABINGDON
Dr. Mike Hines, Abingdon.
BRISTOL CITY, BRISTOL
Dr. P. D. Stout, Bristol.
Dr. A. K. Turner, Bristol.
Dr. W. M. Gammon, Bristol.
WESTMORELAND COUNTY, MONTROSS
Dr. E. T. Ames, Montross.
WISE COUNTY No. 1, NORTON
Dr. E. P. Cox, Norton.
Dr. C. R. Jones, Dorchester.
WISE COUNTY No. 2, BIG STONE GAP
Dr. Milton Milman, Stonega.
Dr. R. S. Kyle, Big Stone Gap.
Dr. W. B. Barton, Stonega.
Dr. F. E. Handy, Appalachia.
Dr. W. B. Peters, Appalachia.
WYTHE COUNTY, WYTHEVILLE
Dr. C. D. Moore, Wytheville.
Dr. E. M. Chitwood, Wytheville.
Dr. M. B. Caldwell, Wytheville.
YORK COUNTY, YORKTOWN
Dr. W. W. Fuller, Williamsburg.
Dr. M. W. Crafford, Lee Hall.

Medical Advisory Boards and Local Boards Served

No. 1—ACCOMACK COUNTY
Dr. John Robertson, *Chairman*, Onancock.
Dr. J. C. Doughty, Onancock.
Dr. George Fosque, Onancock.
Dr. B. N. Mears, Belle Haven.
Dr. George R. Sledge, Parksley.
Dr. Warren P. Lewis, Parksley.
No. 2—NORTHAMPTON COUNTY
Dr. S. K. Ames, *Chairman*, Cape Charles.
Dr. William T. Green, Cape Charles.
Dr. James M. Lynch, Cape Charles.
Dr. W. B. Trower, Cape Charles.
Dr. J. G. Goode, Cheriton.
Dr. E. T. Stevens, Cape Charles.
Dr. W. C. Henderson, Nassawadox.
No. 3—NORFOLK AND PRINCESS ANN COUNTIES AND CITY OF PORTSMOUTH
Dr. Wm. A. Brown, Jr., *Chairman*, Portsmouth.
Dr. George Oast, Portsmouth.
Dr. Fred Barrow, Portsmouth.
Dr. J. W. Abbitt, Portsmouth.
Dr. M. H. Hood, Portsmouth.
Dr. W. H. Haller, Portsmouth.
No. 4—SUFFOLK CITY, NANSEMOND AND ISLE OF WIGHT COUNTIES
Dr. David Rawls, *Chairman*, Suffolk.
Dr. L. W. White, Suffolk.
Dr. O. R. Yates, Suffolk.
Dr. W. T. Gay, Suffolk.
Dr. T. Wood Campbell, Suffolk.
Dr. W. C. Gibson, Suffolk.

No. 5—SOUTHAMPTON AND GREENSVILLE COUNTIES
Dr. J. C. Rawls, *Chairman,* Franklin.
Dr. Rufus L. Raiford, Franklin.
Dr. W. T. McLemore, Courtland.
Dr. Morgan B. Raiford, Franklin.
Dr. A. P. Cutchin, Franklin.
Dr. T. Addison Morgan, Franklin.
Dr. Beaman Story, Franklin.
Dr. L. P. Jones, Emporia.

No. 6—MECKLENBURG, BRUNSWICK AND LUNENBURG COUNTIES
Dr. H. B. Showalter, *Chairman,* Kenbridge.
Dr. Harry E. Whaley, Victoria.
Dr. W. D. Kendig, Kenbridge.
Dr. A. T. Finch, Jr., Chase City.
Dr. H. H. Braxton, Chase City.
Dr. L. H. Bracey, South Hill.
Dr. W. T. Dodd, Chase City.
Dr. R. S. Montgomery, South Hill.

No. 7—HALIFAX AND CHARLOTTE COUNTIES
Dr. W. C. Brann, *Chairman,* South Boston.
Dr. Wm. R. Watkins, South Boston.
Dr. I. K. Briggs, South Boston.
Dr. D. C. Steelsmith, South Boston.
Dr. W. L. Eastlack, South Boston.
Dr. R. F. Gayle, Richmond.

No. 8—PRINCE EDWARD AND CUMBERLAND COUNTIES
Dr. Ray A. Moore, *Chairman,* Farmville.
Dr. J. H. Smith, Farmville.
Dr. W. E. Smith, Farmville.
Dr. H. B. Holsinger, Farmville.
Dr. Powell Tynes, Farmville.
Dr. H. C. Alexander, Farmville.

No. 9—NOTTOWAY AND AMELIA COUNTIES
Dr. Charles L. York, *Chairman,* Burkeville.
Dr. John A. Proffitt, Burkeville.
Dr. J. R. Bailey, Keysville.
Dr. J. B. Woodson, Burkeville.
Dr. J. M. Habel, Jetersville.
Dr. John P. Irby, Jr., Blackstone.

No. 10—DINWIDDIE COUNTY AND CITY OF PETERSBURG
Dr. M. C. Edmunds, *Chairman,* Petersburg.
Dr. Edgar W. Young, Petersburg.
Dr. John M. Williams, Petersburg.
Dr. Claiborne T. Jones, Petersburg.
Dr. E. L. McGill, Petersburg.
Dr. Fred Gill, Petersburg.
Dr. Wright Clarkson, Petersburg.
Dr. M. S. Brent, Petersburg.

No. 11—PRINCE GEORGE COUNTY AND CITY OF HOPEWELL
Dr. T. E. Armstrong, *Chairman,* Hopewell.
Dr. S. B. Perry, Hopewell.
Dr. J. C. Bodow, Hopewell.
Dr. F. M. Howell, Hopewell.
Dr. W. M. Phipps, Hopewell.
Dr. J. E. Keeley, Hopewell.

No. 12—SURRY AND SUSSEX COUNTIES
Dr. T. M. Raines, *Chairman,* Wakefield.
Dr. T. S. Jennings, Waverly.
Dr. T. F. Jarratt, Jarratt.
Dr. E. C. Nettles, Waverly.

No. 13—ELIZABETH CITY AND WARWICK COUNTIES AND CITIES OF HAMPTON AND NEWPORT NEWS
Dr. Russell Buxton, *Chairman,* Newport News.
Dr. H. N. King, Kecoughtan.
Dr. Geo. G. Hankins, Newport News.
Dr. F. N. Thompson, Newport News.
Dr. T. N. Hunnicutt, Newport News.
Dr. E. J. Applewhite, Newport News.

No. 13-A—JAMES CITY AND YORK COUNTIES AND CITY OF WILLIAMSBURG
Dr. Geo. W. Brown, *Chairman,* Williamsburg.
Dr. T. B. Henderson, Williamsburg.
Dr. C. E. Holderby, Williamsburg.
Dr. B. I. Bell, Williamsburg.
Dr. E. T. Terrell, Williamsburg.
Dr. J. R. Tucker, Williamsburg.
Dr. Henry M. Stryker, Williamsburg.
Dr. P. G. Hamlin, Williamsburg.

No. 14—HENRICO, CHESTERFIELD, CHARLES CITY, NEW KENT, HANOVER, GOOCHLAND AND POWHATAN COUNTIES, AND CITY OF RICHMOND
Dr. Clifton M. Miller, *Chairman,* Richmond.
Dr. J. B. Fisher, Midlothian.
Dr. J. T. Tucker, Richmond.
Dr. Beverley R. Tucker, Richmond.
Dr. D. D. Talley, Richmond.
Dr. A. L. Herring, Richmond.
Dr. Guy Harrison, Richmond.
Dr. J. M. Hutcheson, Richmond.

No. 15—ESSEX, KING AND QUEEN AND KING WILLIAM COUNTIES
Dr. J. M. Gouldin, *Chairman,* Tappahannock.
Dr. H. B. Bristow, Tappahannock.
Dr. F. B. Wilson, Tappahannock.
Dr. R. D. Bates, Newtown.
Dr. A. L. Van Name, Center Cross.
Dr. James Shepherd, Tappahannock.

No. 16—MIDDLESEX, GLOUCESTER AND MATHEWS COUNTIES
Dr. N. D. Nelms, *Chairman,* Mathews.
Dr. John Gill, Mathews.
Dr. James Haynes, Mathews.
Dr. Harry A. Tabb, Gloucester.
Dr. J. M. Wiatt, Gloucester.
Dr. W. P. Jones, Urbanna.

No. 17—LANCASTER AND NORTHUMBERLAND COUNTIES
Dr. Lee Liggan, *Chairman,* Irvington.
Dr. M. C. Oldham, Kilmarnock.
Dr. E. R. Lilly, Kilmarnock.
Dr. L. E. Cockrell, Reedville.
Dr. Paul K. Candler, Reedville.
Dr. Foushee O. Mooklar, Reedville.

No. 18—WESTMORELAND AND RICHMOND COUNTIES
Dr. V. O. Caruthers, *Chairman,* Colonial Beach.
Dr. V. L. Litsinger, Farnham.
Dr. A. L. Phillips, Alexandria.
Dr. Thos. W. Murrell, Richmond.

No. 19—CITY OF FREDERICKSBURG, AND SPOTSYLVANIA, STAFFORD, KING GEORGE AND CAROLINE COUNTIES
Dr. Thos. W. Dew, *Chairman,* Fredericksburg.
Dr. J. M. Holloway, Fredericksburg.
Dr. Robt. J. Payne, Stafford.
Dr. C. A. Nunnally, Fredericksburg.
Dr. John E. Cole, Fredericksburg.
Dr. Andrew J. Bolling, Jr., Fredericksburg.
Dr. N. Talley Ballou, Jr., Fredericksburg.
Dr. James Asa Shield, Richmond.

No. 20—ORANGE AND LOUISA COUNTIES
Dr. Otis N. Shelton, *Chairman,* Orange.
Dr. W. R. Warren, Orange.
Dr. J. P. Hankins, Orange.
Dr. G. R. Elliott, Orange.
Dr. Marvin Harris, Orange.

No. 21—CULPEPER, MADISON AND RAPPAHANNOCK COUNTIES
Dr. J. L. Stringfellow, *Chairman,* Culpeper.
Dr. D. W. Kelly, Culpeper.
Dr. Granville Eastham, Culpeper.
Dr. O. K. Burnette, Culpeper.
Dr. Hugh T. Chelf, Culpeper.
Dr. W. G. Palmer, Culpeper.

No. 22—FAUQUIER COUNTY
Dr. Geo. H. Davis, *Chairman,* Warrenton.
Dr. W. G. Trow, Warrenton.
Dr. W. R. Pretlow, Warrenton.
Dr. J. Frank Folk, Warrenton.
Dr. J. E. Knight, Warrenton.
Dr. W. N. Hodgin, Warrenton.

No. 23—CITY OF ALEXANDRIA, AND FAIRFAX, PRINCE WILLIAM AND ARLINGTON COUNTIES
Dr. L. F. Hobbs, *Chairman,* Alexandria.
Dr. M. D. Delaney, Alexandria.
Dr. Herbert Wolff, Alexandria.
Dr. H. A. Latane, Alexandria.
Dr. S. H. Williams, Alexandria.
Dr. J. T. Ashton, Alexandria.
Dr. Wm. T. Burch, Alexandria.
Dr. James W. Love, Alexandria.

No. 24—LOUDOUN COUNTY
Dr. M. B. Hiden, *Chairman,* Leesburg.
Dr. John A. Gibson, Leesburg.
Dr. J. T. Jackson, Leesburg.
Dr. Geo. H. Musgrave, Leesburg.
Dr. W. P. Frazer, Hamilton.
Dr. F. P. Smoot, Leesburg.
Dr. W. O. Bailey, Leesburg.

No. 25—CITY OF WINCHESTER, AND FREDERICK AND CLARKE COUNTIES
Dr. P. W. Boyd, *Chairman,* Winchester.
Dr. Hunter H. McGuire, Winchester.
Dr. James A. Miller, Winchester.
Dr. Geo. H. Smith, Winchester.
Dr. J. B. McKee, Winchester.
Dr. Frank E. Tappan, Berryville.

No. 26—SHENANDOAH AND WARREN COUNTIES
Dr. Frank Gearing, *Chairman,* Woodstock.
Dr. J. T. Rountree, Woodstock.
Dr. Harold W. Miller, Woodstock.
Dr. James H. Smoot, Woodstock.
Dr. W. H. Wunder, Woodstock.
Dr. C. E. Foley, Front Royal.

No. 27—CITY OF HARRISONBURG, AND ROCKINGHAM AND PAGE COUNTIES
Dr. C. E. Conrad, *Chairman,* Harrisonburg.
Dr. F. L. Byers, Harrisonburg.
Dr. N. M. Canter, Harrisonburg.
Dr. John E. Wine, Harrisonburg.
Dr. H. G. Preston, Harrisonburg.
Dr. Marvin D. Switzer, Harrisonburg.
Dr. Jos. L. Wright, Harrisonburg.

No. 28—AUGUSTA, ROCKBRIDGE AND HIGHLAND COUNTIES, AND CITIES OF STAUNTON AND BUENA VISTA
Dr. W. A. Murphy, *Chairman,* Staunton.
Dr. Richard P. Bell, Staunton.
Dr. W. M. Phelps, Staunton.
Dr. Guy Fisher, Staunton.
Dr. Glenn Campbell, Staunton.
Dr. H. E. Topping, Staunton.
Dr. James B. Pettis, Staunton.

No. 29—CITY OF CHARLOTTESVILLE, AND ALBEMARLE, NELSON, BUCKINGHAM, FLUVANNA AND GREENE COUNTIES
Dr. H. S. Hedges, *Chairman,* Charlottesville.
Dr. David C. Wilson, Charlottesville.
Dr. William E. Brown, Sanatorium.
Dr. A. D. Hart, Charlottesville.
Dr. V. W. Archer, Charlottesville.
Dr. D. C. Smith, Charlottesville.
Dr. Harry L. Smith, Charlottesville.
Dr. G. S. Fitz-Hugh, Charlottesville.
Dr. E. P. Lehman, Charlottesville.
Dr. R. V. Funsten, Charlottesville.

No. 30—CAMPBELL, BEDFORD, APPOMATTOX AND AMHERST COUNTIES AND THE CITY OF LYNCHBURG
Dr. David P. Scott, *Chairman,* Lynchburg.
Dr. George B. Arnold, Colony.
Dr. Elisha Barksdale, Lynchburg.
Dr. B. H. Kyle, Lynchburg.
Dr. S. H. Rosenthal, Lynchburg.
Dr. Sam Wilson, Lynchburg.
Dr. T. E. Rucker, Lynchburg.
Dr. Robt. P. Stickley, Lynchburg.
Dr. J. R. Gorman, Lynchburg.
Dr. Walter Thornton, Lynchburg.

No. 31—ROANOKE, BOTETOURT AND FRANKLIN COUNTIES, AND ROANOKE CITY
Dr. John W. Preston, *Chairman,* Roanoke.
Dr. W. Allen Barker, Roanoke.
Dr. S. B. Cary, Roanoke.
Dr. E. G. Gill, Roanoke.
Dr. R. M. Hoover, Roanoke.
Dr. Wm. R. Whitman, Roanoke.
Dr. Leon J. Walton, Roanoke.
Dr. L. F. Verdel, Roanoke.
Dr. Walter Manley, Roanoke.

No. 32—CITY OF CLIFTON FORGE AND COUNTIES OF ALLEGHANY, CRAIG AND BATH
Dr. J. M. Emmett, *Chairman,* Clifton Forge.
Dr. W. M. Revercomb, Clifton Forge.

Dr. A. D. Tyree, Clifton Forge.
Dr. Courtney Edmond, Clifton Forge.
Dr. W. P. Gilmer, Clifton Forge.
Dr. W. H. Savage, Clifton Forge.

No. 33—PITTSYLVANIA COUNTY AND CITY OF DANVILLE
Dr. C. L. Bailey, *Chairman,* Danville.
Dr. H. R. Bourne, Danville.
Dr. B. H. Carpenter, Danville.
Dr. W. B. Fowlkes, Danville.
Dr. S. C. Hall, Danville.
Dr. W. O. Hankins, Danville.
Dr. E. E. Barksdale, Danville.
Dr. M. H. Watson, Danville.

No. 34—CITY OF MARTINSVILLE AND HENRY AND PATRICK COUNTIES
Dr. J. A. Shackelford, *Chairman,* Martinsville.
Dr. F. B. Teague, Martinsville.
Dr. G. B. Dudley, Martinsville.
Dr. G. C. Hughes, Martinsville.
Dr. Robt. R. Lee, Martinsville.
Dr. J. P. Scott, Martinsville.
Dr. H. V. Price, Martinsville.
Dr. C. R. Titus, Bassetts.

No. 35—MONTGOMERY AND FLOYD COUNTIES AND CITY OF RADFORD
Dr. J. J. Giesen, *Chairman,* Radford.
Dr. R. M. DeHart, Christiansburg.
Dr. H. D. Fitzpatrick, Radford.
Dr. E. G. Hall, Radford.
Dr. James King, Radford.
Dr. W. G. Hylton, Radford.

No. 36—PULASKI, CARROLL AND GILES COUNTIES
Dr. R. F. Thornhill, *Chairman,* Pulaski.
Dr. W. F. Delph, Pulaski.
Dr. R. H. Woolling, Pulaski.
Dr. William S. Gilmer, Pulaski.
Dr. R. O. Smith, Pulaski.

No. 37—WYTHE AND BLAND COUNTIES
Dr. C. F. Graham, *Chairman,* Wytheville.
Dr. J. F. Repass, Wytheville.
Dr. C. D. Moore, Wytheville.
Dr. M. B. Caldwell, Wytheville.
Dr. E. S. Berlin, Wytheville.
Dr. J. B. Haller, Wytheville.

No. 38—SMYTH AND GRAYSON COUNTIES
Dr. R. D. Campbell, *Chairman,* Saltville.
Dr. J. A. Soyars, Saltville.
Dr. T. K. McKee, Saltville.
Dr. W. H. McCarty, Marion.
Dr. Geo. A. Wright, Marion.
Dr. R. H. Harrington, Marion.
Dr. J. E. Baughman, Marion.
Dr. J. M. Graybeal, Marion.

No. 39—TAZEWELL AND BUCHANAN COUNTIES
Dr. W. R. Williams, *Chairman,* Richlands.
Dr. I. W. Cunningham, Richlands.
Dr. Linwood Farley, Richlands.
Dr. J. W. Houck, Richlands.
Dr. A. D. Parson, Richlands.
Dr. J. B. Sanders, Richlands.
Dr. Joseph E. Barrett, Marion.

No. 40—WASHINGTON COUNTY AND CITY OF BRISTOL
Dr. H. M. Hayter, *Chairman,* Abingdon.
Dr. L. F. Cosby, Abingdon.
Dr. G. H. Wolfe, Abingdon.
Dr. W. R. Cline, Abingdon.
Dr. W. H. McCarty, Marion.
Dr. H. W. Smeltzer, Abingdon.

No. 41—DICKENSON AND RUSSELL COUNTIES
Dr. Hugh Griffin, *Chairman,* Dante.
Dr. L. C. McNeer, Dante.
Dr. G. W. Skaggs, Dante.
Dr. E. P. Whited, Honaker.
Dr. J. H. Lockhart, Honaker.

No. 42—LEE, SCOTT AND WISE COUNTIES
Dr. G. W. Botts, *Chairman,* Norton.
Dr. W. B. Barton, Stonega.
Dr. C. B. Bowyer, Stonega.
Dr. E. F. Kaye, Stonega.
Dr. J. J. Porter, Norton.
Dr. T. J. Tudor, Norton.

No. 43—CITY OF NORFOLK
Dr. R. L. Payne, *Chairman,* Norfolk.
Dr. Clayton W. Eley, Norfolk.
Dr. C. C. Cooley, Norfolk.
Dr. George Duncan, Norfolk.
Dr. A. B. Hodges, Norfolk.
Dr. R. F. Simmons, Norfolk.
Dr. James W. Anderson, Norfolk.
Dr. Frank H. Redwood, Norfolk.

Induction Boards

The following is a list of the physicians who have or are serving on the Medical Examining Board for the Induction Station in Richmond, Va., from November 28, 1940:

Col. John A. Clark, Medical Corps, U. S. A. in charge.
Dr. W. Lowndes Peple (Surgery and Orthopedics).
Dr. James H. Smith (Internist).
Dr. Wyndham B. Blanton (Internist).
Dr. John Bell Williams (Dentist).
Dr. Robert H. Courtney (Ophthalmologist).
Dr. James Asa Shield (Psychiatrist).
Dr. Edward H. Williams (Psychiatrist).
Dr. William Linwood Ball (Internist).
Dr. Benjamin W. Rawles, Jr. (Surgeon).
Dr. George N. Thrift (Otorhinolaryngologist).
Dr. Fred M. Hodges (Roentgenologist).
Dr. Lawrence O. Snead (Roentgenologist).
Dr. J. Lloyd Tabb (Roentgenologist).
Dr. E. Latane Flanagan ((Roentgenologist)
Dr. J. Hamilton Scherer (Pathologist).
Additions since include:
Dr. Alton D. Brashear (Dentist).
Dr. L. Benjamin Sheppard (Ophthalmologist).
Dr. Walter J. Rein (Ophthalmologist).
Dr. M. Morris Pinckney (Internist).
Dr. Philip W. Oden (Surgeon).
Dr. Kinloch Nelson (Internist).

Dr. Emmett C. Matthews (Internist).
Dr. Edgar Childrey (Ophthalmologist).
Those serving the Induction Station at Roanoke, Va.:
Capt. Joseph M. Dixon, Medical Corps, U. S. A. in charge.
Dr. E. M. Landis (Internist).
Dr. E. P. Lehman (Surgeon).
Dr. Bernard H. Kyle (Orthopedist).
Dr. Harry B. Stone, Sr. (Ophthalmologist).
Dr. Fletcher D. Woodward (Otorhinolaryngologist).
Dr. J. R. Blalock (Neuropsychiatrist).
Dr. F. A. Strickler (Neuropsychiatrist).
Dr. June U. Gunter (Pathologist).
Dr. J. E. John (Dentist).
Dr. H. B. Mulholland (Internist).
Dr. Prentice Kiser (Orthopedist).
Dr. Jason Crigler (Ophthalmologist).
Dr. C. T. Burton (Otolaryngologist).
Dr. Dave Massey (Dentist).
Dr. Roy N. Hoover (Orthopedist).

National Guard Officers

The following medical officers in the National Guard of Virginia have been called into service for an indefinite period:

Lt. Col. Ernest T. Trice, Richmond—State Staff.
Major Wilbur R. Southward, Jr., Richmond—Ft. Meade, Md.
Major Richard A. Bowen, II, Richmond—Ft. Meade, Md.
Major Lewis C. Lush, Richmond—Ft. Meade, Md.
Major Harry F. White, Staunton—Ft. Meade, Md.
Major Frederick P. Barrow, II, Portsmouth—Ft. Meade, Md.
Major Ira H. Hurt, Roanoke—Ft. Story, Va.
Captain Garnett W. Johnson, Danville—Ft. Meade, Md.
Captain Millard R. Buckley, Richmond—Ft. Meade, Md.
Captain Holcombe H. Hurt, Lynchburg—Ft. Story, Va.
Captain Charles F. Davis, Jr., Roanoke—Ft. Story, Va.
Lieut. Herbert G. Ruffin, Arvonia—Ft. Meade, Md.
Lieut. Robley C. Allison, Petersburg—Ft. Meade, Md.
Lieut. Hugh B. Brown, Jr., Draper—Ft. Meade, Md.
Lieut. Rupert W. Powell, Roanoke—Ft. Meade, Md.
Lieut. Oswald M. Weaver, Colony—Ft. Meade, Md.
Lieut. John C. Risher, Lynchburg—Ft. Story, Va.
Lieut. John C. Palmer, Radford—Ft. Story, Va.

Medical Reserve Officers

The following Virginia Medical Reserve officers have been ordered to extended active duty with the regular army by the commanding general of the Third Corps Area:

Lt. Col. George Brooks West, Norfolk.
Lt. Col. Milton Buell Coffman, Richmond—Washington, D. C.
Major Thomas Latane Driscoll, Columbia.
Major George A. L. Kolmer, Salem—Carlisle Barracks, Pa.
Capt. Joseph M. Dixon, Roanoke.
Capt. Wm. Russell Bishop, Flint Hill.
Capt. Henry G. Steinmetz, Arlington.
Capt. Grant R. Elliott, Orange—Camp Blanding, Fla.
Capt. Ayer Crouch Whitley, Palmyra—Camp Shelby, Miss.
Capt. Wm. Holmes Chapman, Suffolk—Ft. Eustis, Va.
Capt. Thomas Duval Watts, Richmond—Ft. Meade, Md.
Capt. Jos. Edwin Cox, Waynesboro—Ft. Story, Va.
Capt. Roger Gregory Magruder, Charlottesville—Langley Field, Va.
Capt. Nathan Sharove, Richmond—Camp Lee, Va.
Capt. Jas. Franklin Waddill, Norfolk—Ft. Eustis, Va.
Capt. Oren Douglas Boyce, Rural Retreat—Ft. Eustis, Va.
Capt. Emmett V. Richardson, Marion—Ft. Eustis, Va.
Capt. Philip Wood Oden, Richmond—Camp Lee, Va.
Lieut. Josiah Thomas Showalter, Cambria.
Lieut. Harold Meyer Boslow, Appalachia.
*Lieut. Sidney Norman Gholsen, Waynesboro.
Lieut. Wm. Aaron Glaubman, Clinchport.
Lieut. Frederick Matthews Jacobs, Roanoke.
Lieut. Gerald A. Long, Arlington.
Lieut. Robert Burwell Nelson, Jr., Winchester.
Lieut. Irvine Saunders, Bedford.
Lieut. Eugene Bowie Shepherd, Richmond—Ft. Moultrie, S. C.
Lieut. Wesley William Wieland, Va. Beach.
Lieut. William Lynn Wingfield, Ashland.
Lieut. Garland Miller Wright, Harrisonburg.
Lieut. Harold Edward Sisson, Haynesville.
Lieut. Chas. Weston Warren, Upperville.
Lieut. Richard C. Potter, Jr., Marion.
Lieut. Robert Franklin Bell, Petersburg—Camp Lee, Va.
Lieut. Otho Perry Campbell, White Stone—Camp Blanding, Fla.
Lieut. Wm. David Chase, McLean—Ft. Eustis, Va.
Lieut. Franklin Harry Cohen, Norfolk—Camp Shelby, Miss.
Lieut. Hugh Robertson Edwards, Newport News—Camp Shelby, Miss.
Lieut. Leslie Allen Faudree, Stanleytown—Camp Blanding, Fla.
Lieut. Gordon Douglas Hall, Dumbarton—Camp Blanding, Fla.
Lieut. Edward Lee Hopewell, Strasburg—Camp Shelby, Miss.
Lieut. Jerome Jos. Shapiro, Richmond—Camp Pendleton, Va.
Lieut. Robert Sterling Montgomery, South Hill—Ft. Belvoir, Va.
Lieut. Geo. S. Bowers, Rustburg—Ft. Meade, Md.
Lieut. Howard Harman Curd, University—Ft. Meade, Md.
Lieut. Richard Lee Jackson, Arlington—Ft. Meade, Md.
Lieut. Ralph Maurice Lechausse, Pardee—Ft. Eustis, Va.
Lieut. Jos. T. Phillips, Jr., Newport News—Ft. Eutis, Va.
Lieut. David Herman Rosenfeld, Richmond—Camp Lee, Va.
Lieut. Walter Emerson Vermilya, Clifton Forge—Camp Lee, Va.
Lieut. Chas. Palmer Alexander, Richmond—Langley Field, Va.
Lieut. Kenneth Nathan Byrne, Lexington—Ft. Eustis, Va.

*Killed in automobile accident, February 28, 1941.

Lieut. Chas. Crawford Canada, East Falls Church—Ft. Story, Va.
Lieut. Julian Booth Doss, Penhook—Camp Lee, Va.
Lieut. Brooke Baylor Mallory, Lexington—Ft. Belvoir, Va.
Lieut. Richard Campbell Manson, Richmond—Camp Lee, Va.
Lieut. Jas. Talton O'Neal, Amelia—Ft. Story, Va.
Lieut. Thomas Addison Morgan, Franklin—Ft. Story, Va.
Lieut. Howard Garnett Snead, Franklin—Ft. Eustis, Va.
Lieut. Washington Carlyle Winn, Richmond—Ft. Monroe, Va.
Lieut. Samuel Michael Bloom, Clifton Forge.
Lieut. Albert John Russo, Check.
Lieut. Jefferson Bishop Kiser, Emporia.
Lieut. Leroy Sannoner Pearce, Farmville.
Lieut. John Edward Fissel, Jr., Newport News.
Lieut. Alex. St. Clair, Richlands—Middletown, Pa.

Naval Medical Reserve Officers

The following named medical officers of the Naval Reserve are now on active duty, or are under orders to report for active duty:

Comdr. W. P. Jackson, Roanoke.
Lt. Comdr. Wm. L. Schafer, Alexandria.
Lt. Comdr. Richard H. Price, Quantico.
Lt. Comdr. Wm. McC. Junkin, Fredericksburg.
Lt. Comdr. Russell M. Cox, Portsmouth.
Lt. Comdr. Harry Sutelan, Norfolk.
Lt. Comdr. Arthur D. Parker, Norfolk.
Lt. Comdr. Chas. H. Lupton, Norfolk.
Lt. Comdr. Frank P. Smart, Norfolk.
Lt. Comdr. Henry A. Kildee, Roanoke.
Lt. Comdr. M. T. Rosser, Hillsville.
Lt. Jas. H. Gillen, Arlington.
Lt. Frank Read Hopkins, Lynchburg.
Lt. Geo. W. Simpson, Norfolk.
Lt. Walter P. Adams, Norfolk.
Lt. Thos. N. Spessard, Norfolk.
Lt. Allen S. Lloyd, Norfolk.
Lt. Christian K. C. Hoyle, Roanoke.
Lt. (jg) Prosser H. Picot, Alexandria.
Lt. (jg) Wm. Ralph Counts, Amonate.
Lt. (jg) Samuel Irving Nichols, Norfolk.
Lt. (jg) James Parrish, Portsmouth.
Lt. (jg) George Zur Williams, Richmond.
Lt. (jg) Charles Morris Nelson, Richmond.

NOTE. Virginia is in the 3rd Army Corps Area, with headquarters in the U. S. Post Office and Court House, Baltimore, and Col. Henry C. Pillsbury, M. C., is Corps Area Surgeon.

It is in the 5th Naval District, with headquarters at Naval Operating Base, Norfolk, Va., of which Capt. William A. Angwin, M. C., is Medical Officer in Charge.

Book Announcements

Cyclopedic Medical Dictionary. Including a Digest of Medical Subjects: Medicine, Surgery, Nursing, Dietetics, Physical Therapy. By CLARENCE WILBUR TABER and 14 associates. Philadelphia. F. A. Davis Company. 1940. 1488 pages with 273 illustrations. Cloth. Thumb-indexed, $3.00. Plain, $2.50.

It was with pleasure that I received this new medical dictionary for review, for the existing ones are so badly in need of revision and of dropping names of proprietary preparations which have not been on the market for many years, that I believe a little competition would be a healthy thing for them all. However, in a few moments I was completely disillusioned, for this particular dictionary is far worse than any I have ever seen before. It is at the same time both incomplete and inaccurate. As a partial proof of the above strong words I will cite some glaring errors which became obvious after a few minutes' inspection:

1. "illumination, direct. Light thrown upon the object from a microscope."

2. "dioxid(e . . . 2. A gas given off by the lungs. Extraneous gases inhaled may be exhaled also."

3. "glucoside . . . Ex: digitalis, . . ."

(Digitalis contains glucosides, but certainly the statement as it stands is false.)

4. "epinephrine. . . . The active principle of suprarenal gland, . . ."

(It should read of course, of the "adrenal medulla.")

5. "acetylcholine. . . . An alkaloid from ergot. It causes a lowering of blood pressure.

a. chloride. It is dissolved in glucose and given in daily doses . . . intramuscularly."

(This is hardly giving acetylcholine its due as a hormone, and one wonders how its salt could be dissolved in glucose.)

6. "hormone. . . . Contains amino acids which may be the precursors of hormones;"

7. "vitamin. . . . Some unknown substance in the stomach seems to be necessary to activate the vitamins. Without it they seem ineffectual."

8. Cevitamic acid is defined but ascorbic acid is not listed, although the latter is the preferred term for vitamin C.

Among the multitudinous omissions are *glycoside* (the preferred term for glucoside), *picrotoxin*, and *corticosterone*. "Carotid gland" should be carotid body. Moreover, no mention is made of the importance of the carotid body in respiration.

The above quotations are merely a few of many errors which I found during a half hour's examination of this book, which is a credit to neither author nor publisher.

R. J. MAIN.

XUM

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Official Publication of the Medical Society of Virginia

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WYNDHAM B. BLANTON, M. D.
Editor

AGNES V. EDWARDS
Business Manager

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All correspondence regarding editorial matter, original articles, and policy should be directed to the Editor. Questions relating to subscription rates, advertising, etc., should be addressed to the Business Manager, 1200 East Clay Street, Richmond, Virginia. The MONTHLY is not responsible for the opinions and statements of its contributors. All advertisements are accepted subject to the approval of the Council on Pharmacy and Chemistry of the American Medical Association. Annual Subscription, $2.00. Single Copies, 25c.

VOL. 68. APRIL, 1941 No. 4

Editorial

Recent Studies in Arterial Hypertension.

In 1934 Goldblatt produced sustained hypertension in dogs by partial constriction of both renal arteries. Nervous reflex and humoral mechanisms have been considered in the explanation of this form of hypertension but recent studies emphasize the importance of the latter. The reasons for this may be summarized briefly.

Experimental hypertension of reduced renal blood flow has been produced in spite of renal denervation, explantation, or transplantation of the ischemic kidney, and even after total sympathectomy. Thus definite evidence has accrued against a neurogenic mechanism and interest has turned to a humoral mechanism of arterial hypertension. Important, at this point, was the revival of interest in "renin", a unique pressor substance first obtained from the kidney in 1898. A connecting link was forged when Landis et al showed that injection of a similar purified kidney extract (renin) elevated blood pressure in animals without reduction of peripheral blood flow, a phenomenon entirely in accord with the known facts concerning peripheral blood flow in human hypertension.

Recently, Page and his coworkers have offered an important series of observations concerning the mechanism of hypertension of renal ischemia. Experimental data supporting their hypothesis also include therapeutic investigations on hypertensive animals, and humans with high blood pressure.

These workers developed a satisfactory method for pulsatile perfusion of the excised rabbit ear and found that renin combined with normal blood plasma caused a greater pressor effect on the rabbit ear vessels than renin alone. This and other experiments led the authors to postulate the following chain of events: Renin is liberated from the kidneys into the renal veins to react in the blood with a hypothetical substance "renin-activator". The product of this reaction is called "angiotonin", a partially vasoconstrictor substance, but sharply enhanced in action by "angiotonin-activator", a substance found in normal blood. However, normal blood also contains a substance coming from normal kidney tissue which inhibits the action of "angiotonin". Thus, either an excessive activation of pressor material, or, other things being normal, insufficient inhibitor or antipressor substance might lead to hypertension. Striking have been the experiments showing that sera from patients with normal blood pressure could be distinguished from sera of hypertensive patients by their respective effects on perfusion rates through the vessels of the excised rabbit ear. Finally, their conception of a substance in the blood and kidney inhibiting pressor action led the Indianapolis workers toward extraction of an antipressor substance from the

kidney for therapeutic use in animals and man. Antipressor action of renal extracts and their capacity to reduce blood pressure of hypertensive rats had previously been described by Harrison, Grollman and Williams. The same group later studied the action of renal extract in a few human cases but did not feel that conclusions were warranted at the time of their study.

Page and his coworkers have prepared extracts of kidneys which lower arterial pressure in patients with essential and malignant hypertension, and in hypertensive dogs and rats. This antipressor extract, according to the authors, differs from other preparations in that it does not produce a prompt fall in blood pressure but at first a rise and several days later a fall. A fall of blood pressure followed the use of this extract in numerous hypertensive dogs and rats, in six patients with essential hypertension, and in five patients with malignant hypertension. Generally the blood pressure trend in both animals and patients was toward the original level after discontinuing treatment four to six days.

Critical analysis of the extensive work of Page and his group will come with time and repetition by other workers. In spite of the apparently striking therapeutic results with kidney extract in animals and patients, much remains to be done. It is important to demonstrate that antipressor kidney extract supplies a substance needed for control of a known humoral pressor mechanism, and is not just another blood pressure lowering preparation.

J.E.W., JR.*

Dr. Joseph A. White.

When Dr. Joseph A. White died a few weeks ago in Richmond at the age of ninety-one, a period was placed to the career of a unique medical figure. His virility, his catholicity of interests, his personal charm were familiar to all who knew him.

Perhaps Dr. White's greatest contribution was his pioneer work in the field of the eye, ear, nose and throat. He began his practice when specialists were as rare as hen's teeth, and when only a man trained as he had been, and capable of inspiring confidence as he did, could have launched himself successfully in a conservative community. Richmond's first specialist, he founded an Eye, Ear and Throat Infirmary and Dispensary, which flourished for years.

The impress of Dr. White's work remains and his memory will long be green in the minds of many friends and admirers.

An Opportunity to Study Tropical Medicine.

At this time when there is a distinct likelihood that our government may have to send troops into tropical countries, it is worth noting that a course in tropical medicine is to be given at the New York Postgraduate Medical School, Columbia University, during May, 1941. It is the first time such a course has been attempted in this country, and a notable group of authorities have agreed to undertake the instructional responsibilities.

The subjects under discussion will include malaria, yellow fever, intestinal parasites, filariasis, the dysenteries, tropical skin diseases, Kala Azar and leptospirosis, as well as the problem of sanitary engineering and tropical hygiene. The purpose of the course is to bring to physicians an authoritative review of the fundamentals of tropical medicine as well as the more recent advances in research in the field. The course will include lectures and demonstrations, and clinical and laboratory material will be available. Some practical work will also be done. To many American physicians tropical medicine will appeal as a new and fascinating subject, and it is anticipated that the course will prove a popular venture in postgraduate education.

*J. Edwin Wood, Jr., M.D., Professor of the Practice of Medicine, Medical Department, University of Virginia.

Proceedings of Societies

Elizabeth City County Medical Society.

At a joint meeting of this Society and the Dixie Hospital Medical staff on March 17, Dr. Robert H. Wright, Jr., of Phoebus, for several years secretary, was elected president, Dr. W. H. Howard of Hampton vice-president, and Dr. J. Lee Mann, also of Hampton, secretary-treasurer.

At this time, Dr. Raymond B. Newman of Hampton was elected a member of the Society and the Hospital Staff.

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The Lee County Medical Society

Officers recently elected for 1941 are: President, Dr. J. H. Dellinger, Pennington Gap; vice-president, Dr. B. C. Grigsby, Bonny Blue; and secretary, Dr. C. H. Henderson, also of Bonny Blue.

Norfolk County Medical Society.

On March 10, Dr. Edwin P. Lehman, Professor of Surgery at the University of Virginia, addressed the Society on "The Problem of Hematogenous Osteomyelitis". Dr. B. F. Parrish was chairman for this meeting.

At the meeting on March 17, Dr. J. Edwin Wood, Jr., also of the University, spoke on "The Hearing of Recent Studies on the Treatment of Hypertension", at which time Dr. Walter P. Adams was chairman.

Under the chairmanship of Dr. James V. Bickford, an address was given on March 24 on "Changes in the X-Ray Picture of the Long Bones in Some Conditions of Childhood." Dr. T. Campbell Goodwin of Johns Hopkins University was the guest speaker on this occasion.

Lynchburg Academy of Medicine.

The regular meeting of the Academy was held on March 3, with the president, Dr. Powell Dillard, presiding.

Dr. W. T. Pugh presented a paper on "Malignancy of the Right Colon". This was followed by an illustrated lecture on "Significance of Pulmonary Hemorrhage" by Dr. P. P. Vinson of Richmond.

C. E. KEEFER, *Secretary.*

Richmond Academy of Medicine.

At the regular meeting on March 25, Dr. David T. Smith, Associate Professor of Medicine of the Duke University School of Medicine, spoke on "Staphylococcus Infections—Their Diagnosis and Management".

The Roanoke Academy of Medicine

Held its regular monthly meeting on March 3. Dr. L. R. Broome gave a paper on "Cavity Closure in Pulmonary Tuberculosis", giving the different artificial measures used in promoting closure and emphasizing those employed at Catawba Sanatorium which have stood the test of time. This was illustrated with X-ray films. The discussion was led by Dr. G. C. Godwin.

Dr. Kenneth D. Graves is president of the Academy and Dr. Allen Barker, secretary-treasurer.

Albemarle County Medical Society.

At the March meeting of this society, Dr. J. Edwin Wood of the University of Virginia faculty gave an address on "Cardiac Arrhythmias, Diagnosis and Treatment".

Dr. W. H. Wood, Jr., is president and Dr. E. W. Kirby, secretary of the society.

The Tazewell County Medical Society

Met for its regular bi-monthly meeting on March 13, in Tazewell. The meeting was well attended. The program was based on the care of the premature and immature infants and consisted of a paper on that subject by Dr. W. R. Strader of Richlands, and a motion picture on the same subject.

MARY ELIZABETH JOHNSTON, *Secretary.*

News Notes

Place of Meeting for 1941 Medical Society of Virginia Convention.

The Cavalier, headquarters for the next meeting of the Society, at Virginia Beach, October 6, 7 and 8, is situated on the broad Atlantic just five miles from the landing place of the first permanent English settlers in America—Cape Henry. Here, in 1607, landed the group known as The London Company. The most famous of these was Captain John Smith whose life was saved by the Indian Princess, Pocahontas.

The fireproof Cavalier Hotel is built on one of the most beautiful parts of the Virginia coast and has been made even more delightful by sunken gardens and skillful landscaping. During the famous "Virginia Garden Week", these gardens are open to the public and are visited by people from all over the country.

All rooms have full outside exposure on the ocean, the gardens or the golf courses, circulating ice water and tub and shower baths. All are tastefully furnished.

The Pocahontas dining room is supplemented by enclosed dining porches where famous food is enjoyed to the utmost. Southern dishes prepared by colored cooks are a specialty of the Cavalier. Fa-

mous Lynnhaven oysters and clams are served the year 'round fresh from nearby Lynnhaven Bay. All other sea foods are featured, served the same day they are taken from the water.

The Hunt Room in the lower lobby is decorated to simulate an old English Inn. It is just the place to enjoy an informal get-together before dinner.

A full-size, heated, salt-water pool is situated on the first floor, adjoining the main lobby. There are two 18-hole golf courses adjacent to the hotel and available to guests. Green fairways and velvet-smooth greens make these two courses a veritable paradise for the ardent and skillful golfer, and at the same time appeal as strongly to those whose game is not quite so expert.

The normal mean average temperature at Virginia Beach over a 57-year period for October is 62.3°—a perfect temperature for an enjoyable visit.

Such is the setting for the 1941 Convention. Plan to be there!

Cards have been mailed all members, asking that titles for volunteer papers be sent the Society's office by June 1. Please give this attention, in order that the program may be arranged before the vacation season begins.

Those desiring to have scientific exhibits, should arrange for space promptly.

Have you a hobby? If so, why not exhibit it at this time? This is to be a new feature and we hope may prove a popular one. Others will be interested in your talents and pleasures. Advise headquarters office, 1200 East Clay Street, Richmond, how much space you will wish for your display.

American Academy of Pediatrics.

Region II (Southern Division) of the American Academy of Pediatrics will hold its annual convention in Richmond, with headquarters at the John Marshall Hotel, on April 24 and 25.

The scientific program will include three round table sessions. On the 24th, from 10:00 a. m., to 12:30 p. m., the subject will be "Mental Health of the Child as Related to National Defense" with Dr. Horton Casparis, Professor of Pediatrics of the Vanderbilt University, as chairman, and Dr. Harvie DeJ. Coghill, Richmond, as co-chairman. From 2:00 to 4:30 p. m., "Nutrition of the Child as Related to National Defense" will be presented, with Dr. Frederick F. Tisdall of the University of Toronto as chairman, and Dr. W. H. Sebrell of the National Institute of Health as co-chairman. At 9:00 a. m. on the 25th, Dr. George Marshall Lyon, Huntington, W. Va., will speak on "Food Contaminations and Poisons". Following this, the round table will be on "Communicable Diseases and Their Relation to the Child During National Defense". Dr. Wilburt C. Davison, Duke University, will be chairman, and Dr. M. Hines Roberts, Emory University, co-chairman.

All members of the Medical Society of Virginia, interested in pediatrics, are invited to attend the scientific sessions.

The Tri-State Medical Association of the Carolinas and Virginia.

Held its annual meeting in Greensboro, N. C., February 24 and 25, under the presidency of Dr. C. J. Andrews of Norfolk, and an excellent program was given. Greenville, S. C., was selected as the next place of meeting. Dr. Addison G. Brenizer of Charlotte, N. C., succeeded to the presidency, and the following officers were elected: President-elect, Dr. George R. Wilkinson, Greenville, S. C.; vice-presidents, Drs. J. W. Hooper, Wilmington, N. C., H. J. Langston, Danville, Va., and G. H. Bunch, Columbia, S. C. Dr. J. M. Northington of Charlotte, N. C., was re-elected secretary. Councilors elected at this meeting for a term of three years are Drs. W. Steele Dendy of Pelzer, S. C., J. W. Davis of Statesville, N. C., and Allen Barker of Roanoke, Va. Councilors continuing in office are: Drs. J. R. Young, Anderson, S. C., R. P. Morehead, Wake Forest, N. C., D. B. Koonce, Wilmington, N. C., W. H. Prioleau, Charleston, S. C., and O. B. Darden and F. S. Johns of Richmond, Va.

The Southeastern Surgical Congress

Held an excellent meeting in Richmond, the middle of March, under the presidency of Dr. Irvin Abell of Louisville, Ky. Dr. Julian L. Rawls of Norfolk succeeded to the presidency, Dr. Alton Ochsner of New Orleans was named president-elect, Dr. Frank Johns of Richmond vice-president and Dr. B. T. Beasley of Atlanta, Ga., was re-elected secretary-treasurer. Selection of the 1942 place of meeting will be made by the executive council.

Noted Woman Physician to Appear in Richmond.

Dr. Josephine Neal, of New York, internationally known neurologist, will deliver a lecture on April 18, at 8 p. m. at the Richmond Academy of Medicine

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Building. Her subject will be "Acute Encephalitis with Special Reference to That Following Infectious Diseases". Dr. Neal is clinical professor of neurology at the College of Physicians and Surgeons of Columbia University, and director of the department of infectious diseases of the nervous system at the Neurological Institute in New York. Her researches and writings in her field are noteworthy. The lecture is sponsored by Pi Chapter, Alpha Epsilon Iota, national fraternity of medical women.

Invitation is extended to the medical profession of the State and other interested individuals to attend this meeting.

The American Psychiatric Association,

Oldest national medical organization in the United States, will hold its ninety-seventh annual meeting in Richmond, May 5-9, 1941, at The Hotel Jefferson. The Association, which has an official membership of approximately twenty-five hundred, is meeting in Richmond for the second time in recent years, having last met here in 1925.

The Association was founded at the Jones Hotel in Philadelphia on October 16, 1844. It was then known as The Association of Medical Superintendents of American Institutions for the Insane. This meeting was attended by thirteen medical superintendents, and in American Psychiatric Annals they are reverently spoken of as "The Original Thirteen". Virginia was well represented as Dr. Francis T. Stribling of the Western Lunatic Asylum at Staunton, and Dr. John M. Galt of the Eastern Lunatic Asylum at Williamsburg, were among these "Original Thirteen". In 1893, the name was changed to The American Medico-Psychological Association, and in 1921, its name was again changed to The American Psychiatric Association.

The present officers are: Dr. George H. Stevenson, Ontario, Canada, President and Dr. Arthur H. Ruggles, Providence, R. I., Secretary-Treasurer.

Dr. Finley Gayle is chairman and Dr. J. Asa Shield vice-chairman of the local Committee on Arrangements, which has the following sub-committees:

BUDGET AND FINANCE: Dr. O. B. Darden, chairman, and Drs. H. C. Henry, Frank Redwood, and J. R. Blalock.

ENTERTAINMENT COMMITTEE: Dr. J. Asa Shield, chairman, and Drs. J. K. Hall, Howard R. Masters and Edward H. Williams.

HOTEL AND RESERVATIONS: Dr. Howard R. Masters, chairman, and Drs. Rex Blankinship, P. V. Anderson and George W. Brown.

EXHIBITS—SCIENTIFIC AND COMMERCIAL: Dr D. C. Wilson, chairman, and Drs. B. R. Tucker, H. DeJ. Coghill, M. S. Brent and E. T. Terrell, Jr.

TRANSPORTATION: Dr. J. N. Williams, chairman, and Drs. P. H. Drewry, Jr., G. B. Arnold and P. G. Hamlin.

PUBLICITY: Dr. Edward H. Williams, chairman, and Drs. J. E. Barrett, J. S. DeJarnette and C. T. Wilfong.

SLATE OF OFFICERS

The *American Journal of Psychiatry,* in its January, 1941 issue, states that, in accordance with the Constitution of the Association, the Nominating Committee reports the following nominations for officers for consideration and action at the 97th annual meeting to be held in Richmond, May 5 to 9: For President—Dr. James K. Hall, Richmond; for President-Elect—Dr. Arthur H. Ruggles, Providence, R. I.; and for Secretary-Treasurer—Dr. Winfred Overholser, Washington, D. C.

Medical College of Virginia News.

Lectureships sponsored by the various medical fraternities of the college during February and March were as follows:

February 28—Dr. Fuller Albright, assistant professor of medicine, Harvard Medical School, speaking on *Some Aspects of Metabolic Bone Diseases.* Sponsored by Alpha Omega Alpha, honorary medical society.

March 12—Dr. Eugene M. Landis, professor of medicine, University of Virginia, Department of Medicine, speaking on *Capillary Physiology and Fluid Balance.* Sponsored by Sigma Zeta, national honorary fraternity.

March 14—Dr. Walter E. Vest, internist, Chesapeake and Ohio Hospital, Huntington, West Virginia, speaking on *Some Medical Aspects of Shakespeare.* Sponsored by Phi Beta Pi, honorary medical fraternity.

All of the lectures were well attended by the profession and students of the college.

The annual Stuart McGuire lecture and spring postgraduate clinics are scheduled for April 24 and 25. Dr. Alfred Blalock, Vanderbilt University, Nashville, Tennessee, will give the McGuire Lectures. Efforts are being made to bring a prominent

surgeon from England for the postgraduate clinics. The emphasis in the clinics will be on surgery. In connection with the lectures the ex-internes of the hospital division of the college will hold their annual reunion.

During the Southeastern Surgical Conference in Richmond the college had many visitors. It is hoped that, during the coming spring months when a great number of meetings will be held in Richmond, members of the profession will feel welcome to come and visit the institution. It will be a pleasure to have them.

Dr. Porter P. Vinson, professor of bronchoscopy, esophagoscopy, and gastroscopy, gave three addresses during February and March, the first to the Kanawha Medical Society, Charleston, West Virginia, the second to the Cincinnati Academy of Medicine and the third to the Lynchburg Academy of Medicine.

Dr. William T. Sanger, president, attended the annual meeting of the Council on Medical Education and Hospitals in Chicago.

Dr. R. J. Wilkinson and Dr. F. O. Marple of Huntington, West Virginia, were recent college visitors.

Dr. M. H. Bland, Dr. H. G. Byrd, Dr. W. L. Nalls, Dr. Lewis E. Jarrett, Dr. P. S. Richards, Dr. W. Cardwell, Dr. R. C. Cecil, Dr. L. B. Todd, Dr. R. L. Clark, Jr., Dr. J. C. Parker, Dr. A. E. Powell, Dr. A. B. Croom, Dr. Jose Bou Lopez, Dr. M. J. Hoover, Jr., and Dr. Walter E. Vest, Jr., were recently initiated into Alpha Omega Alpha, honorary medical society. Dr. William T. Sanger, president, was made an honorary member of the society.

News from University of Virginia, Department of Medicine.

On February 24, Dr. F. M. Hanes, Professor of Medicine at Duke University School of Medicine, addressed the University of Virginia Medical Society on Sprue.

At the meeting of the University of Virginia Medical Society on March 7, Drs. Walter Freeman, Professor of Neurology at George Washington University School of Medicine, and James Watts, Associate Professor of Neuro-Surgery at George Washington University School of Medicine, spoke on the subject, Prefrontal Lobotomy in Mental Disorders.

On March 10, Dr. E. P. Lehman spoke before the Norfolk Academy of Medicine on the subject, The Problem of Acute Hematogenous Osteomyelitis.

On March 7, Dr. Oscar Swineford, Jr., participated in the Postgraduate Course in Medicine and Surgery for the Elizabeth City County Medical Society conducted under the auspices of the Department of Clinical and Medical Education of the Medical Society of Virginia. His subject was Chronic Rheumatism. On March 14, Dr. J. Edwin Wood, Jr., presented a lecture before this Society on Cardiac Irregularities.

On March 11, Dr. Oscar Swineford, Jr., addressed the South Carolina Medical Society, meeting in Charleston. His subject was The Management of Asthma. At a meeting of the Tidewater Technicians Society at Newport News on March 12, he discussed Observations on Immunology.

The Virginia Section of the American College of Physicians met at the University of Virginia on March 13. The following program was presented: Drs. Dudley C. Smith and Walter Herold spoke on Gonorrheal Keratosis; Drs. Andrew D. Hart, Jr., and Ralph B. Houlihan discussed Haverhill Fever Following Rat Bite; Dr. Staige D. Blackford presented a paper on Abnormal Cholecystograms: Developments in Ninety Untreated Patients; Drs. Edwin P. Lehman and George M. Lawson discussed Clinical and Bacteriological Studies with Sulfanilylguanadine; and Dr. Gilmore Holland spoke on Electroencephalographic Studies in Myoclonia.

On March 17 to 20, Dr. Fletcher D. Woodward gave a series of Postgraduate Lectures before the Dallas Southern Clinical Society. His subjects were: Fractures of the Face and Sinuses; Diseases of the Nasopharynx; Treatment of Acute and Chronic Ear Infections; Treatment of Sinusitis; and The Value of Chemotherapy in Otitic Infections. At the meeting of the Academy of Medicine in Houston on March 21, he discussed the Treatment of Certain Malignancies of the Nose, Throat and Larynx.

Dr. C. E. Haberlin,

Class of '24, Medical College of Virginia, who has been in practice for sometime at Stratford, Conn., is now stationed at Camp Blanding, Fla., with the 43rd Division of the 118th Medical Regiment. His rank is that of Lieutenant Colonel.

The National Foundation for Infantile Paralysis

Announces a series of six lectures on Infantile Paralysis by outstanding medical authorities, to be

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presented at Vanderbilt University, Nashville, during April. They are as follows:

April 7—The History of Poliomyelitis (Progress of the Knowledge of the Disease up to the Present) by Dr. Paul F. Clark, Professor of Bacteriology of the University of Wisconsin.

April 8—The Etiology of Poliomyelitis (Including Its Relation to Diagnosis) by Dr. Charles Armstrong, Senior Surgeon, U. S. Public Health Service.

April 9—Immunity to Poliomyelitis (Including Serum Therapy and Vaccination) by Dr. Thomas M. Rivers, Director, Hospital of the Rockefeller Institute for Medical Research.

April 14—Pathology and Pathogenesis of Poliomyelitis by Dr. Ernest W. Goodpasture, Professor of Pathology of Vanderbilt University.

April 15—Epidemiology of Poliomyelitis by Dr. John R. Paul, Yale University School of Medicine.

April 16—Treatment and Rehabilitation of Poliomyelitis Patients by Dr. Frank Ober, Assistant Dean, Harvard University Medical School.

Invitation is extended the faculties of various universities and members of medical associations to attend these lectures.

Married.

Dr. A. M. Jacobson of Roanoke and Miss Ruth Peters of Richmond in March. Dr. Jacobson is a member of the class of '36, Medical College of Virginia.

Dr. George Barksdale Craddock and Miss Mary Spencer Jack, both of Lynchburg, February 1. This was incorrectly announced in last issue as Dr. George Craddock Barksdale.

Dr. Edwin Lawrence Kendig, Jr., of Richmond, and Miss Emily Virginia Parker of Appalachia, March 22.

Virginia Tuberculosis Association.

Dr. P. P. McCain of Sanatorium, N. C., president of the National Tuberculosis Association, was the guest speaker before the Virginia Association at its annual meeting in Richmond on March 13, his subject being "How We May Care for Our Advanced Tuberculous Patients". In the election of officers, Dr. Frank S. Johns of Richmond succeeded Mr. J. Vaughan Gary, also of Richmond, as president, and Miss Leslie C. Foster was continued as executive secretary. The following doctors are among those elected to fill vacancies on the board of directors: Drs. Charles P. Cake of Arlington; C. L. Harrell of Norfolk; E. C. Harper of Richmond; Morgan B. Raiford of Franklin; Thos. N. Hunnicutt, Jr., of Newport News; and William Watkins of South Boston. Drs. Dean B. Cole and R. K. Flannagan of Richmond and Dr. Cake are members of the executive committee.

Dr. C. B. Bowyer,

Stonega, recently enjoyed a vacation in Cuba, visiting many places of interest.

"Exploring With X-Rays"

Is a new four-reel sound motion picture to be released by the General Electric X-Ray Corporation. The film is strictly educational in nature, having as its purpose, the telling of the story of X-rays and their many applications in language easily understandable to people without technical training. Designed principally for exhibition before lay audiences, the film will be loaned free of charge, except for transportation costs, to doctors who are asked to appear before such groups. It will be reserved for a short period for exhibition exclusively before professional society meetings. Further information may be obtained from the General Electric X-Ray Corporation, 2012 Jackson Blvd., Chicago, Ill.

The New York Polyclinic Medical School and Hospital

Announces the following special lectures:

Dr. Walter C. Alvarez of the Mayo Clinic will deliver a lecture on April 18, on "Puzzling Types of Abdominal Pain".

Dr. Ralph Moore Tovell, Hartford Hospital, Hartford, Conn., will lecture on May 2 on "Regional Anesthesia".

These lectures are open to the medical profession.

Dr. Charles F. Kincheloe,

Formerly of Falls Church, is taking a two-year residency in orthopedic surgery at the Hospital for the Ruptured and Crippled in New York. He recently completed an eight-months course in orthopedic surgery at the University of Pennsylvania Graduate School of Medicine.

Industrial Associations Meet.

The American Association of Industrial Physicians and Surgeons and The American Industrial Hygiene Association will have their annual meeting at the Hotel William Penn, Pittsburgh, May 5-9. This will be a "postgraduate" institute of industrial medicine and industrial hygiene and scores of perti-

nent papers and discussions are scheduled on the medical and engineering phases of employee health protection.

The American College of Physicians

Will hold its twenty-fifth annual session in Boston, April 21-25, with headquarters at the Hotel Statler. Dr. James D. Bruce, Ann Arbor, Mich., is president, and Dr. George M. Piersol, Philadelphia, secretary-general. Dr. J. Morrison Hutcheson, Richmond, is the Virginia member of the Board of Regents.

"The Foundation Prize".

The American Association of Obstetricians, Gynecologists and Abdominal Surgeons announces that all manuscripts competing for the $150.00 award which is known as "The Foundation Prize" must be in the hands of the secretary before June 1. Eligible contestants shall include only interns, residents, or graduate students in obstetrics, gynecology or abdominal surgery, and physicians who are actively practicing or teaching these subjects. Full information may be obtained from the secretary, Dr. Jas R. Bloos, 418 Eleventh Street, Huntington, W. Va.

Deaths of Infants.

According to a final census report by the Department of Commerce, deaths of infants under one year of age, exclusive of stillbirths, totaled 108,846 for 1939. This was in comparison with 116,702 for the previous year. Only fourteen states achieved an infant death rate of less than 40 per cent 1,000 live birth; eighteen including the District of Columbia had rates of between 40 and 50; and the remaining seventeen had rates of from 50 to 109 per cent. Although 48 was the average for the entire United States, the white average was 44.3, the Negro 73.2, and other races 97.2.

New State Epidemiologist.

Dr. Harry H. Henderson, formerly connected with the Diagnostic Center of the U. S. Veterans' Administration in Washington, D. C., has been appointed State Epidemiologist and assumed these duties on March 1. He succeeded Dr. J. B. Porterfield, who was recently appointed director of the State Bureau of Industrial Hygiene.

Bank Directors.

Other doctors than those named in last issue of the MONTHLY who have been re-elected as bank directors are: Dr. R. D. Garcin of Richmond on the board of the Bank of Commerce and Trusts, and Dr. R. W. Miller, also of Richmond, with State-Planters Bank and Trust Company.

Dr. Frank A. Strickler,

Who is engaged in the practice of neurology and psychiatry in Roanoke, is also assisting in this work at St. Albans Sanatorium, Radford.

Dr. James McLean Rogers,

For some years in charge of the Alexander Hospital, Soon Chun, Korea, under the auspices of the Southern Presbyterian Mission, was recently recalled because of conditions in the Orient. He is now practicing at Glade Spring, this state.

New Books.

The following are recent acquisitions to the Library of the Medical College of Virginia and are available to our readers, the only cost being return postage:

Amer. assn. of med. soc. workers—Criteria for determining eligibility for medical care.
Bartlett, H.—Some aspects of social case work in medical setting.
Bateman, D.—Sir Berkeley Moynihan.
Blum, H. F.—Photodynamic action and diseases caused by light.
Boeke, J.—Problems of nervous anatomy.
Brown, A. L.—Technical methods for the technician.
Burnet, F. M.—Biological aspects of infectious disease.
Carlson, E. R.—Born that way.
Carroll, R. S.—What price alcohol?
Castglioni, A.—History of medicine.
Eddy & Dalldorf—The avitaminoses.
Eddy, W. H.—What are the vitamins?
Fantus, B.—Technic of medication.
Fletcher & Raven—War wounds and injuries.
Hassin, G. B.—Histopathology of the peripheral and central nervous system.
Hay, W. H.—Some human ailments.
Hooton, E. A.—Why men behave like apes and vice versa.
Krogh, A.—The comparative physiology of respiratory mechanisms.
Larsell, O.—Textbook of neuro-anatomy and the sense organs.
Mackenzie, C.—The action of the muscles.
Military medical manual.
Nielsen, J. M.—Clinical neurology.
Officer's guide.
Silvette, H.—Catalogue of the works of Philemon Holland of Coventry, doctor of physicke.
Smith, G. E.—Plague on us.
Smith, K. M.—The virus—life's enemy.
Smith, L. W. and others—Cardio-vascular renal disease.
Sulzberger & Wolfe—Dermatologic therapy in general practice.
Tuttle, A. D.—Handbook for the medical soldier.
Vaughan, W. T.—Strange malady.

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The American Academy of Physical Medicine

Will hold its Nineteenth Annual Meeting and Scientific Session on April 28, 29, 30, in New York, with headquarters at the Hotel Pennsylvania. Dr. Harold D. Corbusier, Plainfield, N. J., is President.

All members of the medical profession and those of related interests are invited to attend the scientific program. There will be no registration fee. Address inquiries to Herman A. Osgood, M. D., Secretary, 144 Commonwealth Avenue, Boston, Massachusetts.

Wanted—

Physician. Preferably young man who has had some experience in psychiatry or who wishes to enter this field; to associate in psychiatric work in nervous and mental private hospital. An attractive position with opportunity if he succeeds in the work. Address BXY care of this JOURNAL. (*Adv.*)

For Sale—

G. E. shock-proof, mounted or bed-side unit X-ray machine of late model F-2. Recently factory inspected and o.k'd. Has been used less than one year. Consists of foot switch, hand timer, fluoroscope, and mobile stand. Cost $645, but will sell for $400. Reason for selling—have two machines. Pictures sent on request. Dr. W. B. Barton, Stonega, Va. (*Adv.*)

Obituary Record

Dr. John Wyatt Davis, Sr.

Well-known Lynchburg physician, died February 27, after an illness of several months. He was a native of Richmond and sixty-five years of age. Dr. Davis first practiced in Richmond but had been in Lynchburg for the past thirty-five years, except for periods of service with the United States Navy in 1917-1919 and 1920-22. He was a member of the Lynchburg Academy of Medicine and the Medical Society of Virginia. He is survived by his wife, a daughter and a son, Dr. J. Wyatt Davis, Jr.

Dr. James Taylor Walker

Died at his home in Richmond on March 12. He was eighty-two years of age and a graduate of the College of Physicians and Surgeons, Baltimore, in 1886. Before his retirement several years ago, Dr. Walker practiced medicine in Orange County. He had been a member of the Medical Society of Virginia for forty-four years. A son and a daughter survive him.

Dr. Sidney Norman Gholsen,

First Lieutenant, Medical Corps of the Army, who entered the Service from Waynesboro, Va., last June, was instantly killed when his automobile overturned on the road between Ft. Meade and Laurel, Md., on February 28. He graduated in medicine from the University of Cincinnati in 1935 and interned at the U. S. Marine Hospital in Key West, Fla.

Dr. Lunsford Hoxley Lewis,

Elkton, died March 8, at the age of sixty-one He was a graduate of the Medical College of Virginia in 1910, and was formerly a member of the Medical Society of Virginia. His wife, two daughters, and a son survive him.

Dr. Samuel Marion Stone,

Charleston, W. Va., died March 16 of bronchial pneumonia. He was a native of Pittsylvania County and sixty years of age. Dr. Stone graduated from the Medical College of Virginia in 1916. He is survived by his wife, a son and a daughter. One of his brothers is Dr. James B. Stone of Richmond.

Resolutions on Dr. Barringer.

Paul B. Barringer died the 9th day of January, 1941, in the 84th year of his life. His accomplishments; scholastic, scientific and administrative, will be recorded in detail elsewhere.

To those of us who knew him during the past two generations he endeared himself as an interesting and sympathetic teacher and companion. He was unsurpassed as a reconteur; a recorder of evolution of scientific knowledge and of medical history. In fact he was a genial and charming host in every sense. We, especially those of us of the older generation, merely wish to express our love and affection for the unique and exceptional personality. We ask that this testimonial be spread upon the minutes of the Albemarle County Medical Society; that a copy be sent his wife and family and that it be published in the VIRGINIA MEDICAL MONTHLY.

H. S. HEDGES
L. T. ROYSTER
Committee